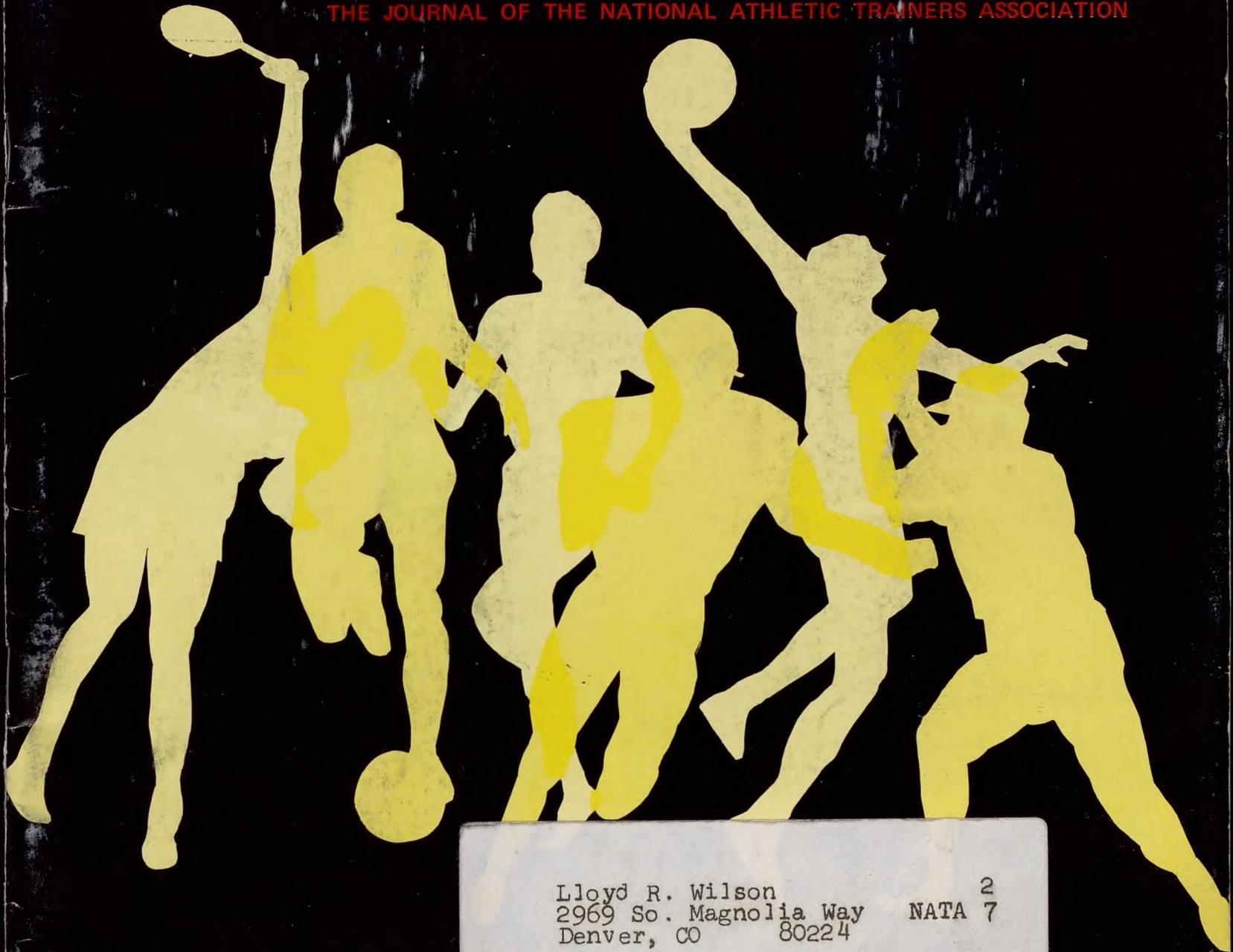




ATHLETIC TRAINING

THE JOURNAL OF THE NATIONAL ATHLETIC TRAINERS ASSOCIATION



Lloyd R. Wilson
2969 So. Magnolia Way
Denver, CO 80224

NATA 2
7

ON THE INSIDE:
Opinion of NCAA Coaches and Trainers
Toward the Use of Ergogenic Drugs
The Effect of Bee Pollen Tablets on Blood Factors
and Performance of Male Collegiate Swimmers
1976 Schering Symposium on Low Back Problems

Volume 11
Number 3
Fall 1976

INTRODUCING ARNO PRO-COMFORTTM

THE ULTIMATE IN FOOT AND LEG PROTECTION

Arno Pro-Comfort is a specialized line of foot and leg protection products. Not the longest line, but a quality line that meets the rigorous conditions of athletic competition. The Pro-Comfort line is the result of years of research, development and testing by Arno and its Professional Trainers' Advisory Staff.

Strapping Tapes and Underwrap

Pro-Comfort strapping tapes offer superior tensile strength plus wrinkle resistance and adhesive power. Three kinds are available:



Trainers Paks that offer 15-yard rolls to help eliminate waste and speed taping sessions.

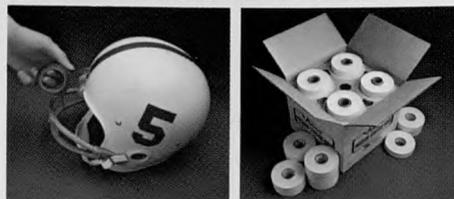
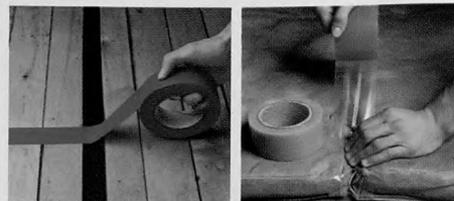
Pro-Comfort Underwrap, made



of the finest quality polyurethane foam available, minimizes irritation and allows fast and painless tape removal.



standard, standard porous, and Trainers Tape—the most economical and most widely used of all Pro-Comfort athletic tapes. All are available in



Athletic Department Supplies

Versatile Pro-Comfort vinyl tapes are available in 14 colors and transparent, for floor marking and joining gym mats. Vinyl striping tapes and numbers are available in the same wide variety of colors. Denim-like cloth Hockey Tape provides a cushioned nonslip grip for stick handles; a protective "bumper" for blades. Also ideal for no-stretch support for socks. Available in six colors.



Specialized Protection Products

For a variety of uses, Pro-Comfort Trainers Adhesive Foam and Trainers Moleskin can't be beat. The resilient foam is excellent for padding bruises or injured areas. Trainers Moleskin, a soft cushioning felt with self-adhesive backing, relieves pressure on tender spots and is ideal where thin padding is needed. Other specialized products include knee and ankle supports, instant chemical ice packs, foam rubber insoles, adhesive strip bandages and non-adhesive elastic bandages.

For more information write for our free catalog on Arno Pro-Comfort products—developed by professionals for professionals.



Arno[®]

Arno Adhesive Tapes, Inc.
Athletic Products Division, P.O. Box 301, Michigan City, Indiana 46360

D. Schalls Tape Division

Arno[®]
Pro-Comfort

This athlete could be in danger* ...unless his body fluids are replenished!



*Excessive fluid loss and electrolyte depletion including potassium can constitute important factors in the production of heat stress complications. The best preventive is acclimatization. Intake of fluids containing adequate amounts of electrolytes, including potassium, is also recommended. BRAKE TIME is a scientifically formulated drink containing balanced quantities of important electrolytes.

BRAKE TIME is an ideally balanced, noncarbonated, electrolyte drink — deliciously flavored to provide:

- Optimized concentrations of salt electrolytes — similar to ranges found in sweat.
- A hypotonic solution with low sugar levels to facilitate faster body fluid replacement.
- A balanced replacement level of potassium to help replenish losses in body potassium during exercise.
- No fat or protein, and contains vitamin C.
- Low caloric content — only one calorie per 6 oz. serving.

BRAKE TIME should be used before, during, and after all pronounced physical activity.


BRAKE TIME™
THIRST QUENCHER

BRAKE TIME is available in three delicious flavors. Orange, Lemon-Lime and Punch, in packages that prepare one and five gallons. Punch and Lemon-Lime are also available in a new quart package.

FREE SAMPLE

For your free sample of BRAKE TIME, the serious drink that really tastes good, too, just send us your name and address on your school stationery.

 **Johnson & Johnson**
ATHLETIC DIVISION

New Brunswick, New Jersey 08903



"Some of our key players would have seen a lot less game time if not for the excellent results we're getting with these systems."

"CYBEX and ORTHOTRON measure and rehabilitate not only strength, but power and endurance, too. This is extremely important for evaluating injuries and insuring complete rehabilitation."

"We've seen athletes in seemingly good condition with right to left side or agonist/antagonist imbalances, or a poor power to strength relationship. I think that quantifying and correcting these deficits not only reduces the chance of injury, but actually improves the athlete's performance."

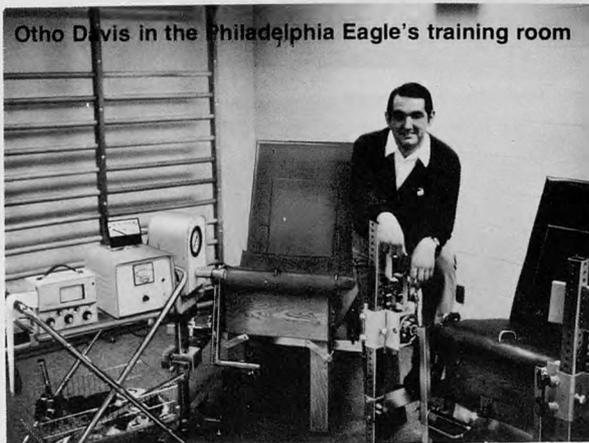
"The entire system is surprisingly easy to use... testing methods are quickly learned and results are easily interpreted so that specific rehabilitation exercise and training programs can be tailored to the needs of the individual athlete."

"A CYBEX could pay for itself in shoulder, elbow and wrist rehabilitation alone."

"The players have real confidence in the CYBEX and ORTHOTRON. They believe in results and are as interested in the chart recordings of their progress or

features of these systems is their ability to test and exercise at high contractile/velocities. Adequate or equal slow-speed strength, like developed with weights, is no guarantee of high velocity, power or endurance."

"After more than a year's experience with CYBEX and ORTHOTRON, we're convinced that we are getting much faster rehab results, reducing the number of re-injuries, and, in some cases, actually improving player performance and preventing injuries from occurring."



Otho Davis in the Philadelphia Eagle's training room

These are some of the teams that have purchased CYBEX II and/or ORTHOTRON in the past year:

- Boston Celtics Basketball Club,
- Boston Red Sox Baseball Club,
- Cleveland Browns Football Club, Denver Broncos Football Club,
- Houston Texans Football Club, Indiana Pacers Basketball Club, Minnesota Twins Baseball Club, Minnesota Vikings Football Club, New England Whalers Hockey Club, New York Jets Football Club, New York Stars Football Club, Philadelphia Phillies Baseball Club, Phoenix Suns Basketball Club, San Diego Chargers Football Club, San Francisco 49ers Football Club, Clemson University, University of Illinois, Michigan State University, Michigan Tech. University, NASA (Skylab Team), University of North Carolina, University of Notre Dame, University of Oklahoma, San Diego State College, University of Southern California, University of Texas, Texas Tech. University, U.S. Air Force Academy, U.S. Army Academy, U.S. Naval Academy, Univ. of Western Ontario, Williams Col.

"The cost of CYBEX and ORTHOTRON is a small investment to protect any team's largest investment - talented athletes."

performance as the team physician and I. They really want to use this equipment for strength maintenance and training programs."

"We have dramatically reduced our number of knee injuries..."

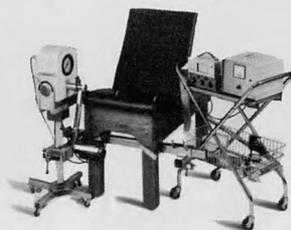
"One of the most eye-opening



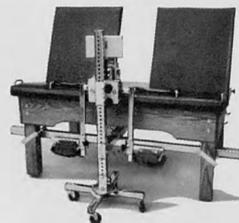
Lumex, Inc. — Sports Medicine Dept. — 100 Spence Street — Bay Shore, N.Y. 11706 — (516) 273-2200

MAIL TO: LUMEX, INC./100 SPENCE ST. BAY SHORE, N.Y. 11706
 Please send more information on:
 All systems.
 CYBEX
 ORTHOTRON
 FITRON

Name _____
 Team or Affiliation _____
 Address _____
 City _____
 State _____
 Zip _____
 Phone _____



CYBEX II—Now available in special set-up providing the convenience and versatility needed for Sports Medicine and Research applications.



ORTHOTRON—Lower-cost reciprocal isokinetic exerciser available with S-H-D Tables to suit any training or rehab area's needs.



FITRON—The first and only Cycle-Ergometer designed specifically for the athlete in training... much higher work-rates, much stronger frame, higher positive adjustments.



ATHLETIC TRAINING

The Journal of the National Athletic Trainers Association

VOLUME ELEVEN

NUMBER THREE

FALL 1976

**Editor-in-Chief
and Journal Committee Chairman**

Rod Compton
Sports Medicine Division
East Carolina University
Greenville, North Carolina 27834
Telephone: 919-757-6426

Editor

Clint Thompson
Jenison Gym
Michigan State University
East Lansing, Michigan 48824

Journal Committee

Dennis Aten
Eastern Illinois University
John Wells
Louisiana State University
Ed Christman
The College of William & Mary
Holly Wilson
University of Iowa
Jeff Fair
Oklahoma State University
Ray Baggett
Indiana State University

Editorial Board

Bob Moore
San Diego State University
Ken Knight
University of Missouri
Jack Cooke
University of Rhode Island
Dan Libera
University of Northern Colorado
Jim Rankin
Michigan State University

**Director of Advertising
and Circulation**

Mary Edgerley
Eastern Associates
P.O. Box 1865
Greenville, North Carolina 27834
Telephone: 919-752-1725

ARTICLES

- | | |
|-----|---|
| 104 | Case Study: A Medial Meniscectomy
In Women's Field Hockey
<i>Kathleen Heck, A.T.,C.</i> |
| 108 | Opinion of NCAA Coaches and Trainers
Towards the Use of Ergogenic Drugs
<i>Meylink and Struck</i> |
| 114 | <i>1976 Schering Symposium:</i>
Basic Anatomy and Biomechanics of the Low Back
In Relation to Low Back Pain
<i>James R. Urbaniak, M.D.</i> |
| 124 | Effect of Bee Pollen Tablets on the Improvement
of Certain Blood Factors and
Performance of Male Collegiate Swimmers
<i>Steben, Harless, Wells</i> |
| 127 | Preparation of Manuscripts for Publication
<i>Kenneth Knight, A.T.,C.</i> |
| 133 | Citizen's Savings Hall of Fame |
| 135 | N.A.I.R.S. Question Corner |
| 142 | N.A.T.A. Procedures for Certification |
| 145 | Minutes of the Meetings of
The Board of Directors |

DEPARTMENTS

- | | |
|----------------------------------|-----|
| <i>Letter from the President</i> | 101 |
| <i>Calendar of Events</i> | 102 |
| <i>Potpourri</i> | 120 |
| <i>Current Literature</i> | 131 |
| <i>Tips From the Field</i> | 137 |
| <i>Abstracts</i> | 139 |
| <i>Guide to Contributors</i> | 144 |

Athletic Training is published in the Spring, Summer, Fall and Winter by the National Athletic Trainers Association, a non-profit organization. Second class postage paid at Lafayette, Indiana 47904, and additional mailing offices. The views and opinions expressed in *Athletic Training* are those of the author and not necessarily those of the National Athletic Trainers Association. Non-member subscriptions are available at \$7.00 per year

and may be obtained by writing to Eastern Associates P.O. Box 1865, Greenville, NC 27834. CHANGE OF ADDRESS may be made by sending old address and new address with zip code number. Instructions should state whether change is temporary or permanent. Allow thirty days for changeover. Address changes should be sent to 3315 South Street, Lafayette, Indiana 47904. ADVERTISING - Although advertising is screened, ac-

ceptance of the advertisement does not necessarily imply NATA endorsement of the product or the views expressed. Advertising rates available on request, Eastern Associates, P.O. Box 1865, Greenville, North Carolina 27834 (Telephone 919-752-1725). Copyright Fall 1976 by the National Athletic Trainers Association.

The National Athletic Trainers Association

President

Frank George
Brown University
Dept. of Athletics
Providence, Rhode Island 02912



Executive Director

Otho Davis
Philadelphia Eagles
Veterans Stadium
Philadelphia, Pennsylvania 19148

Board of Directors

- | | | | |
|---------|--|----------|---|
| Dist. 1 | Wesley D. Jordan
University of Maine
Orono, Maine 04473 | Dist. 6 | Cash D. Birdwell
Southern Methodist University
Dallas, Texas 75222 |
| Dist. 2 | Richard F. Malacrea
Princeton University
Princeton, New Jersey 08540 | Dist. 7 | Warren Lee
University of Arizona
Tuscon, Arizona 85721 |
| Dist. 3 | Herman Bunch
North Carolina State University
Raleigh, North Carolina 27607 | Dist. 8 | William H. Chambers
Fullerton Jr. College
Fullerton, California 92634 |
| Dist. 4 | Robert C. White
Wayne State University
Detroit, Michigan 48202 | Dist. 9 | Tom Wall
University of Tennessee
Knoxville, Tennessee 37901 |
| Dist. 5 | William W. Flenjte
University of Missouri at Rolla
Rolla, Missouri 65401 | Dist. 10 | Larry Standifer
University of Oregon
Eugene, Oregon 97403 |

District Secretaries

- | | | | |
|---------|---|----------|--|
| Dist. 1 | Joseph Abraham
Hobart College
Geneva, New York | Dist. 6 | James Dodson
Midland High School
Midland, Texas 79701 |
| Dist. 2 | Joseph Abraham
Hobart College
Geneva, New York 14456 | Dist. 7 | Troy Young
Arizona State University
Tempe, Arizona 85281 |
| Dist. 3 | Andy Clawson
The Citadel
Charleston, S.C. 29409 | Dist. 8 | Roger Dennis
Calif. State University, L.A.
Los Angeles, California 90032 |
| Dist. 4 | Marjorie Albohm
Indiana University
Bloomington, Indiana 47401 | Dist. 9 | Steve Moore
Tennessee Technological University
Cookeville, Tennessee 38501 |
| Dist. 5 | Laurence Morgan
Kansas State University
Manhattan, Kansas 66502 | Dist. 10 | John Anderson
1120 Cherry Street
Seattle, Washington 98104 |

Committee Chairmen

- | | |
|---|--|
| Audio-Visual Aids - Gordon Stoddard | Journal - Rod Compton |
| Certification - Lindsay McLean | Membership - Bruce Melin |
| Drug Education - John Wells | National Convention - Fred Hoover |
| Ethics - L. F. "Tow" Diehm | Placement - Rodney Poindexter |
| Grants and Scholarships - W.E. "Pinky" Newell | Professional Education - Sayers "Bud" Miller |
| History and Archives - Mike O'Shea | Career Information & Services - Fred Kelley |
| Honor Awards - George Sullivan | Public Relations - Fritz Massman |
| International Games - Charles "Chuck" Medlar | Research and Injury - Ted Quedenfeld |

National ATHLETIC TRAINERS ASSOCIATION

EXECUTIVE DIRECTOR
OTHO DAVIS
Philadelphia Eagles
Veterans Stadium
Philadelphia, Pa. 19148
Telephone: 215/463-2500

PRESIDENT
FRANK GEORGE
Brown University
Department of Athletics
Providence, Rhode Island 02912
Telephone: 401/863-2211

FROM THE PRESIDENT'S DESK

Dear NATA Member,

It was good to see many of you at the annual meeting in Boston. As you know, a number of issues were discussed and voted upon by the Board of Directors. Please read the minutes of the Board meeting, which are published in the Journal to keep you informed on Board decisions.

One of the major topics of discussion at the meeting was state licensure and the formation of state licensure committees. Please, contact your District Director regarding assistance and information concerning this subject.

Other major issues which were approved by the Board of Directors are changes in qualifications for membership:

1. New applicants for Code 2, associate membership must have a college degree.
2. Applicants for Code 4, student membership, must be enrolled in a college or university.
3. The Association will no longer accept applications from high school students.

There has also been a change in the Procedures for Certification: Section III, the actively engaged section, is now more structured and contains more requirements. The Board feels these changes will improve the Association and the profession of Athletic Training.

In the past NATA has provided a number of complimentary parties and tours at its annual meeting. This was done through the generous contributions of many of our friends and exhibitors. Due to many understandable economic factors, many of these complimentary parties will not be provided at future meetings. The NATA will provide for a complimentary get together type of breakfast for the wives and families of members.

While we are discussing economic factors, we should express a special thanks to our Journal advertisers and convention exhibitors. The best way we can thank them is to purchase their products. Their financial support has enabled this association to support many activities which would otherwise be impossible.

Frank George

Frank George
President NATA

CALENDAR OF EVENTS

by
JEFF FAIR, A.T., C.
 OKLAHOMA STATE UNIVERSITY

OCTOBER, 1976

- 7-10 - American School Health Association: Marriott Hotel, New Orleans. Contact S.J. Jerrick, Executive Director, P.O. Box 708, A.S.A.A., National Office Building, Kent, Ohio 44240.
 11-15 - American Occupational

- Therapy Association: San Francisco, California. Contact Dr. R.K. Bing, O.T.R., Chairman, National Conference Committee, Box 140, UTMB, Galveston, Texas 77550.
 15-17 - American School and Community Safety Association Second National Sports Safety Conference: Chicago. Contact Linda

- Moore, ASCSA, 1201 16th Street N.W., Washington, D.C. 20036.
 30-Nov 1 - The Spine, American Academy of Orthopaedic Surgeons: Durham, North Carolina. Contact American Academy of Orthopaedic Surgeons, 430 North Michigan Avenue, Chicago, Illinois 60611.

NOVEMBER, 1976

- 3-7 - Biomechanics, American Academy of Orthopaedic Surgeons: Cleveland, Ohio. Contact American Academy of Orthopaedic Surgeons, 430 North Michigan Avenue, Chicago, Illinois 60611.
 6-8 - The Foot: Child and Adult, American Academy of Orthopaedic Surgeons: Dallas, Texas. Contact American Academy of Orthopaedic Surgeons, 430 North Michigan Avenue, Chicago, Illinois 60611.
 7-12 - American Academy of Physical Medicine, San Diego, California. Contact C.C. Harold, 30 North Michigan Avenue, Suite 922, Chicago, Illinois 60602.
 15-16 - American Osteopathic Academy of Sports Medicine: Clearwater, Florida. Keith Peterson, D.O., 5409 17th Street, Seattle, Washington 98107.

HYDROCOLLATOR[®] A STANDARD IN
 PHYSICAL THERAPY

Steam
PACK **MOIST HEAT TREATMENT**

REUSABLE

COL PAC[®] **EASY TO USE**
 COLD APPLICATION

NYLATEX[®] **PRON PILLŌ**
 WRAP MATERIAL AND OTHER NEW PRODUCTS

SEND COUPON FOR COMPLETE INFORMATION

NAME _____

ADDRESS _____

COMPANY _____

CITY _____ STATE _____ ZIP _____

 **CHATTANOOGA PHARMACAL CO.**
 CHATTANOOGA, TENNESSEE 37405

E

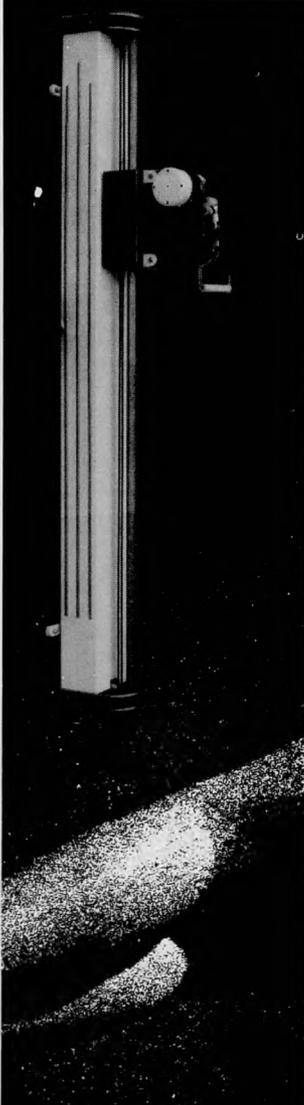
Athletic Training will be happy to list events of interest to persons involved in sports medicine, providing we receive the information at least two months in advance of publication. Please include all pertinent information and the name and address of the person to contact for further information. This information should be sent to Jeff Fair, Athletic Department, Oklahoma State University, Stillwater, Oklahoma 74074. •

THE BODY MACHINES

from General Therophysical, Inc.

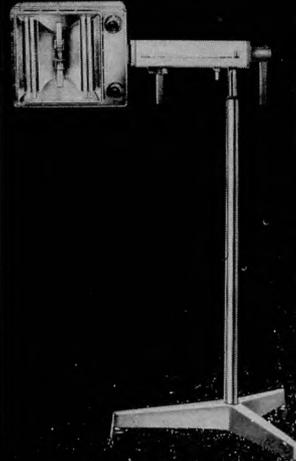
GTI ISOKINETIC EXERCISE BENCH

Well-known Mini-Gym Exerciser provides full-range, isokinetic resistance for quads and for hamstrings. Fully padded. *Special Sale Price of \$295 complete; Floor Exerciser, also shown: \$95.*



NEW! CUINIER OLEO-DYNE

Fully-flexible isokinetic exerciser provides automatically-variable resistance equal to your athlete's *maximum* capabilities throughout his *full* range of motion. Wall-mount (shown) or floor mount.



NEW! HANAU IR-UV LAMP

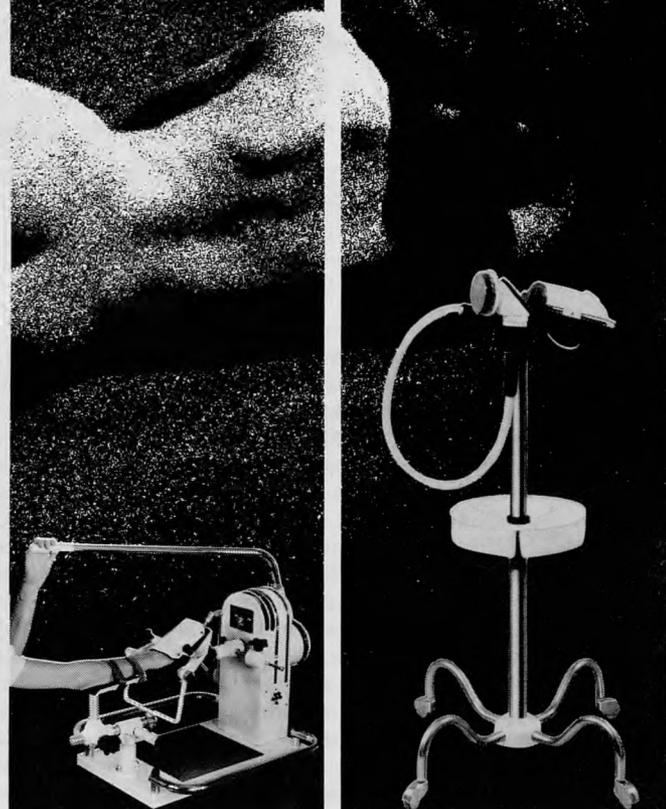
Combines broad heating capabilities of infra-red, with bactericidal properties of ultra-violet radiation for treatment of athlete's foot or other dermatological indications.

NEW! CUINIER CIRCUMDUCTOR™

The only exerciser to provide wrist circumduction and ankle circumduction. Incrementally-increasing resistance from zero to infinity. To prevent injury by building circumductive capability, and to rapidly rehabilitate injured wrists and ankles.

G5™ MASSAGE APPARATUS

Powerful! To prevent injury by toning muscles prior to exertion, and to prevent stiffness after exertion. Three speeds. Interchangeable applicators additionally provide heat massage, ice massage, trigger point reduction, rapid sinus drainage.



© 1975 General Therophysical, Inc.

"The Body Machines" . . . to help prevent injuries before they happen, and to help in treatment when they happen. Each of our "Body Machines" is built to take the rough usage of your treatment room—and more. Each has been designed and manufactured by the world's leading producers of physical therapy equipment. "The Body Machines" . . . tough, dependable workhorses to help you help your athletes.

PLEASE SEND ME:

- General catalog and price list
- Detailed information on the following products:



Name _____
 Title _____
 Affiliation _____
 Address _____
 City _____ State _____ Zip _____

AT1

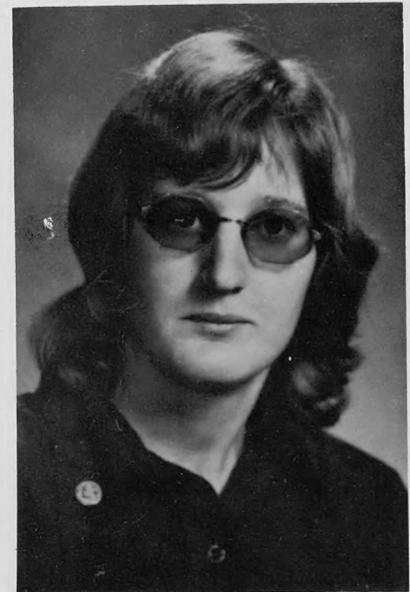


GENERAL THERAPHYSICAL INC.
 2018 Washington Avenue, St. Louis, Missouri 63103
 U.S.A. Telephone: (314) 231-9643

CASE STUDY:

A MEDIAL MENISECTOMY IN WOMEN'S FIELD HOCKEY

by
Kathleen Heck, A.T., C.
Assistant Athletic Trainer
University of Virginia



The simple meniscectomy is a commonly performed procedure and generally guarantees the athlete, who undergoes proper rehabilitation, a return to full activity within four to eight weeks. According to O'Donoghue (3), in acute cases it is difficult to diagnose a torn meniscus unless the joint actually locks. In chronic cases where the joint does not actually lock, yet shows recurrent pain and effusion, a tear of one of the menisci must be suspected without a definite history of locking or "giving way." The latter situation was illustrated in the case of a 19 year old center forward on the University of Virginia women's intercollegiate field hockey team.

History

The athlete could recall no specific traumatic incident concerning her right knee except for being struck in the anteriomedial aspect of the joint by a field hockey ball in a game on natural turf in October, 1974. In all probability there was no relationship between her recollection of this incident and the actual initial trauma to her knee. Tears of the menisci result

from torsion or rotational-type injuries or accompany a direct blow that is forceful enough to cause a sprain to one of the collateral ligaments. (2) Thus, it is unlikely that a simple incident such as being struck with a field hockey ball could result in a torn meniscus, but it must be kept in mind that perhaps the pain from that contusion masked a torsion-type injury that occurred at that moment or at some other point in time. While an accurate history is of great value in diagnosing any injury, the lack of a patient's recollection of a specific traumatic incident certainly does not rule out the possibility of any type of injury if its symptoms are present.

Although she finished the game, the athlete experienced effusion, localized tenderness on the anteriomedial aspect of the joint, and discoloration. There was no loss of range of motion and no joint instability at this time, but soon afterwards the athlete began to experience an occasional clicking sensation in her knee. Clicking can be attributed to several sources: movement of the patella over the femoral condyles, the snapping of a hamstring tendon over the bone,

osteoarthritis, or meniscus damage (4). In this case the athlete had no previous history of arthritis, of patellar chondromalacia, or of hamstring tendon problems, and all three were later ruled out upon examination by University of Virginia team physician Dr. Frank McCue. She was initially treated with ice, compression, and elevation and later with hydrotherapy, hydrocollator heat packs, and a compression bandage for activity. Although she missed only one practice, she was placed on a program of isometric and progressive resistance exercises to strengthen her lower extremities. After the season's end the symptoms disappeared, and the joint was asymptomatic while the athlete was relatively inactive until summer, 1975. After playing tennis daily during the summer, the same symptoms of effusion, clicking, and pain, now localized along the medial joint line, began to develop.

Diagnosis

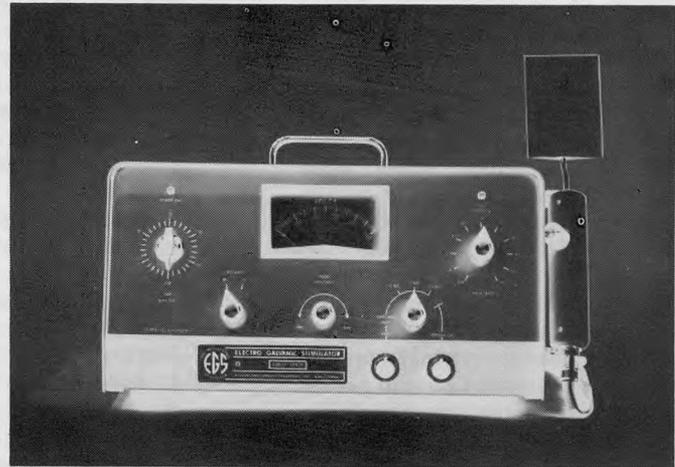
The symptoms, which had been mild to moderate in severity through pre-season field hockey practices in

A NEW MODALITY FOR PHYSICAL THERAPY

- To relieve spasticity and spasms
- In muscle re-education
- To increase blood flow

HIGH VOLTAGE GALVANIC STIMULATOR

E.G.S. Model 100 generates pulses of short duration at variable voltages from 0 to 500 volts for effective, well-tolerated therapeutic stimulation of nerves and muscles for use in a variety of conditions when medical galvanism is indicated. Current smoothness provides ranges without the usual painful heating or unpleasant side reactions. Completely safe—no burning.



SOLID STATE

**ELECTRO-MED
HEALTH INDUSTRIES, INC.**

6240 N.E. 4th Court
Miami, Florida 33138
305-756-6013

MEDICAL-DENTAL
EQUIPMENT



CERTIFIED
LR 35767-1



LISTED
629 R

September, intensified after the second game of the season. Although the athlete could still perform to a degree, she began to develop pain on lateral motion, pain when walking up stairs, and occasional incidents of weakness or "giving way." Although no audible or palpable clicking could be elicited with a McMurray Test, the athlete's disability was increasing and she was now occasionally experiencing slight difficulty in achieving full extension. There were no signs of ligament instability, patellar chondromalacia, discoloration, or a decrease in the range of motion of the knee. An arthrogram was performed October 6, 1975 at the University of Virginia Medical Center. The arthrogram, an injection of air or a contrast medium into the joint space followed by radiological examination, is quite successful in detecting major lesions of a menisci. However, minor tears or small erosions of the knee's cartilages are difficult to detect using arthrography (5). In this case the arthrogram's results were negative. But with the athlete unable to perform in a satisfactory manner, team physician Dr. Frank McCue recommended surgery to determine the

exact nature of the internal derangement of the knee and to correct it. Two weeks prior to surgery the athlete began doing a series of three exercises to improve muscle tone and to prevent atrophy in the quadriceps muscle group: 1) straight leg raising: raise leg to right angle, hold, and lower slowly — for two minutes each hour, 2) leg raising with the ankle of the uninjured leg across the shin of the injured leg to add resistance: raise legs, hold, lower slowly — for two minutes each hour, and 3) quad setting: tighten the thigh muscle to bring the patella toward the pelvis, hold for six seconds, relax — repeat until the leg gets tired or for one minute each hour.

Surgical Technique

Surgery was performed by team orthopedic surgeon Dr. Frank McCue at the University of Virginia Medical Center October 28, 1975. After a medial incision was made, the knee was flexed, and the medial meniscus examined and excised. The meniscus was not found to be torn within itself, as in a bucket-handle or a horizontal tear, but to be torn away from its soft tissue attachment to the deep portion

of the medial collateral ligament. The lateral edge was frayed rather than actually torn, and the meniscus had been slipping into the joint space causing the slight locking sensation that she had been experiencing. The anterior and posterior attachments were stretched, but they were not actually torn loose. Of particular significance is the fact that a defect in the tibial articular cartilage approximately the size of a quarter had developed from the abnormal amount of movement of the medial meniscus back and forth upon the articular cartilage. This is an important factor in that degenerative changes in a joint's articular cartilage can and do occur. When one debates postponing surgery on a joint that has locked, or one that simply shows evidence in internal derangement as in this case, these factors must be considered. This particular case is an excellent example of how moderately disabling conditions can produce degenerative changes that may lead to degenerative arthritis in later life. In many cases minimization of such degeneration can be accomplished by early surgical intervention.

Also while in surgery, the underside of the patella was examined

and, although it was slightly soft in places, it was not rough and required no surgical correction. The anterior cruciate ligament was also examined and found to be intact. The wound was sutured, and a soft dressing and an elastic bandage from toes to mid-thigh was applied. The patient was released from the hospital after recovery from the general anesthetic - approximately five hours after surgery. For pain she was given morphine in the recovery room and a prescription for demerol. She was also given instructions to begin performing her same pre-operative exercises for five minutes every hour.

She was placed on crutches for one week but was allowed to begin partial weight-bearing after the third day (which was when she could successfully complete ten straight leg raises without having to rest). After the first week she was allowed to use just one crutch, and after ten days when she could walk without a limp, no crutches were used.

Rehabilitation

After the sutures were removed ten days post-surgery, she began receiving daily whirlpool treatments and began the active rehabilitation program used at the University of Virginia, designed by head athletic trainer and physical therapist Joe Gieck (1):

A. Daily Activities

1. Whirlpool treatment

- a. work on increasing the knee's range of motion while in the water
- b. 104°F, 15-20 minutes

2. Isometric Exercises

- a. place right ankle across the left shin, push down with right leg while pushing up with left leg; do this in three positions, with the legs completely straight, slightly bent, and bent at a 90° angle; hold for six seconds, relax, repeat for two minutes.
- b. reverse the procedure above and place left ankle across right shin
- c. knee press: Stand with the feet shoulder's width apart, flex the knees slightly, and place the hands on the lateral aspect of the knee joint. Press out against the hands with the knees for six seconds. Repeat with the hands on the medial aspect of the knee joint and pressing in with the knees. Do each exercise three times.

3. Bench steps

- a. begin by using a regular stair step and advance to using a bench 18-20 inches in height
- b. begin with 1½ minutes and work up to five minutes at a rate of 30 steps per minute
- c. running stairs for three minutes at a rate of 120 stairs per minute can be substituted

4. Flexibility exercises

- a. a variety may be done, but the quadriceps, hamstrings, and gastrocs are the most important muscle groups to work on:
 1. hurdle stretch
 2. achilles tendon stretch
 3. anterior thigh stretch

B. Monday, Wednesday, and Friday Activities

1. Running

- a. begin with stage one - walking two miles, as soon as possible advance to stage two - jogging a mile, and finally advance to stage three - running sprints: 40's, 100's, 300's
- b. rope skipping for five minutes

2. Weight training: knee flexion and extension

- a. determine the maximum weight that can be lifted ten times - as soon as it can be lifted more than ten times, increase the weight
- b. lift 50% of the maximum weight ten times (10 RM)
- c. lift 75% of the maximum weight ten times (10 RM)
- d. lift 100% of the maximum weight ten times (10 Rm)
- e. lift, hold for two seconds, lower, rest two seconds, repeat

C. Tuesday, Thursday, and Saturday Activities

1. Running

- a. begin with stage one - walking stairs for 3-5 minutes, as soon as possible advance to stage two - jogging stairs for 3-5 minutes, and finally advance to running stairs for five minutes
- b. rope skipping for five minutes

2. Weight training

- a. leg press on the Universal Gym: three sets of ten repetitions
- b. knee flexion and extension: one set of 200 repetitions in each direction with five to ten pounds

Heavy weights with a low number of repetitions are used to increase strength, and light weights with a high number of repetitions serve to increase endurance. The goals of knee rehabilitation are strength, endurance, and a range of motion that is complete and free of pain. The process is complete when the athlete achieves equal pre-injury levels of strength and endurance in both legs.

In the case of the University of Virginia field hockey player, she began her rehabilitation program November 7, 1975. Initially, she could lift only five pounds with her injured right leg, but she quickly advanced and was up to 15 pounds after two weeks. After four weeks she was lifting 30 pounds with her quadriceps and 20 pounds with her hamstring muscles. She was able to play tennis on Thanksgiving Day, thirty days after surgery. To add variety to her activities, the athlete frequently substituted swimming and bicycle riding for the running portion of the program. By mid-December she was lifting 40-50 pounds with her quadriceps and 25-30 pounds with her hamstring muscles. She was able to play tennis daily over Christmas vacation without incident, and her prognosis for continued improvement and for a return to the sport of field hockey in the fall of 1976 is excellent.●

References

1. Gieck, Joe H., "University of Virginia Knee Rehabilitation Program," University of Virginia, Charlottesville, Virginia, 1970.
2. Klafs, Carl E., and Arnhem, Daniel D., *Modern Principles of Athletic Training*, C.V. Mosby Co., St. Louis, 1969, p. 273.
3. O'Donoghue, Don H., *Treatment of Injuries to Athletes*, W.B. Saunders Co., Philadelphia, 1970., p. 553-5.
4. Smillie, I.S., *Injuries of the Knee Joint*, The Williams and Wilkins Co., Baltimore, 1962, p. 101.
5. Turek, S.M., *Orthopaedics: Principles and Their Application*, J.B. Lippincott Co., Philadelphia, 1967, p. 732.

New 2nd Edition! **DEVELOPMENTAL CONDITIONING FOR WOMEN AND MEN.** By Anthony A. Annarino.

Reflecting the most current research findings in the area of functional conditioning, this new book describes and illustrates *how* a variety of conditioning programs are developed. Then, it explains *why*, relating each program to its physiologic effects. Contents cover: scientific principles, circuit training, interval training, calisthenics, isometrics, weight training, and men's and women's conditioning programs for all sports. January, 1976. 272 pp., 260 illus. Price, \$7.75.

New 4th Edition! **KINESIOLOGY.** By John M. Cooper, Ed.D. and Ruth B. Glassow, M.A. Now available in a new 4th edition, this popular book offers an updated study of human motion as it relates to various anatomic structures. The book begins with discussions of human evolution and the history of kinesiology. The authors then precisely examine the anatomic bases of movement, and specific patterns of movement as they are affected by various body systems. Part III applies kinesiology to motor skills and covers physical and biomechanical principles. May, 1976. 364 pp., 336 illus. Price, \$11.50.

New 7th Edition! **PHYSIOLOGY OF EXERCISE.** By Laurence E. Morehouse, Ph.D. and Augustus T. Miller, Jr., M.D., Ph.D. The newly revised 7th edition of this classic includes many new highlights. A new chapter, "The Production of Energy by Cells," explains phenomena of acute and chronic exercise at basic cellular and molecular levels. Other new chapters relate exercise physiology to sports medicine and cardiac rehabilitation. New discussions are included on energy metabolism, effects of exercise on specific body systems, and more. March, 1976. 378 pp., 33 illus. Price, \$10.50.

SCIENCE AND SKILLS OF WRESTLING. By Warren J. Boring, H.S.D. A balanced presentation of technique and analysis, this unique book provides a complete overview of wrestling. The author examines wrestling in three major sections: academic aspects; skills and techniques; and scientific aspects. Instructive photographs and concise explanations highlight the skills and techniques section. You'll also find valuable chapters on diet and nutrition, biomechanics, and injuries. 1975. 343 pp., 464 illus. Price, \$12.75.

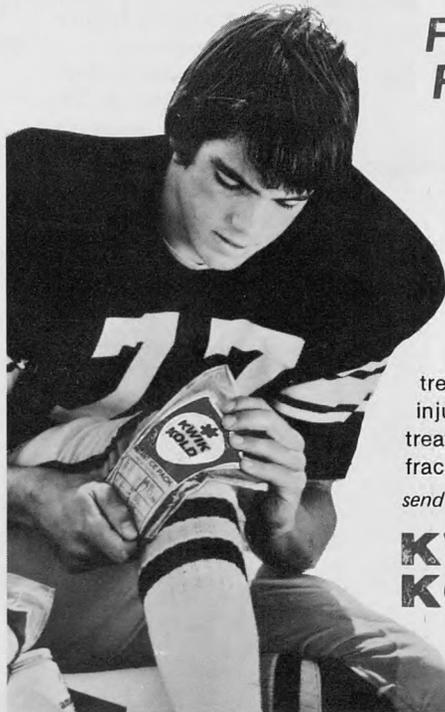


Sound Body and Mind. . . An unbeatable team!

Help your athletes develop skills and knowledge necessary to understand how the body works . . . and how to make it work effectively with these new Mosby books.

PUT COLD TO WORK

FOR FAST FIRST-AID TREATMENT



KWIK-KOLD is a chemical cold pack that stores easily in any temperature and has a long storage life. It provides 30° cold for 30 to 40 minutes.

Simply squeeze to activate and you have instant cold — the ideal treatment for a multitude of minor injuries that can be disabling if not treated promptly. Use on sprains, bruises, fractures, burns, or minor cuts.

send for complete information today

KWIK KOLD instant cold without ice

KWIK-KOLD Division of Kay Industries
BOX 696, MOBERLY, MISSOURI 65270

Results

The strongest respondent opinion was noted on items dealing with the use of specific drugs by NCAA athletes (Table II). The four drugs included in this survey, (amphetamines, sedative, steroids, and local anesthetics)

TABLE II
ITEMS DEALING WITH SPECIFIC DRUGS

Item	Percent Response		
	Agree	No Opinion	Disagree
8. Male intercollegiate athletes should be allowed to use amphetamines to aid athletic performance.	2.5	.7	96.4
11. Male intercollegiate athletes should be allowed to use sedatives to aid athletic performance.	6.5	3.6	90.0
13. Male intercollegiate athletes should be allowed to use androgenic-anabolic steroids to aid athletic performance.	3.9	5.4	90.7
15. Male intercollegiate athletes should be allowed to use local anesthetics to aid athletic performance.	19.4	4.9	75.8

have been connected with athletic performance in the past (4). Over 90 percent of the NCAA coaches and trainers surveyed did not feel male intercollegiate athletes should be allowed to use amphetamines, sedatives, or steroids to aid athletic performance. Three-fourths of the respondents disagreed with the use of local anesthetics. Apparently the use of local anesthetics is slightly more acceptable than the other three drugs.

Several of the survey items concerned overall use of drugs in sport (Table III). Eighty percent of the respondents believed that drugs should not be used *during* athletic competition while only 50 percent considered it unethical to use drugs to aid *recovery* from competition. Over three-fourths of the coaches and trainers felt that the use of drugs was unethical even if they were: 1) available to all athletes, or 2) no physical danger was involved.

TABLE III
ITEMS DEALING WITH GENERAL OPINION

Item	Percent Response		
	Agree	No Opinion	Disagree
1. Ergogenic aids merely enhance an athlete's innate ability and do not change the nature of competition.	18.5	10.2	71.3
2. It should be considered unethical to use ergogenic aids <i>during</i> any athletic competition.	81.9	3.9	14.1

TABLE III (Cont.)
ITEMS DEALING WITH GENERAL OPINION

Item	Percent Response		
	Agree	No Opinion	Disagree
3. It should be considered unethical to use ergogenic aids to assist recovery after athletic performance is completed.	50.7	8.5	40.8
5. The use of ergogenic aids is in the same category as improving performance by pregame taping or message.	5.2	1.6	93.9
6. Assuming that ergogenic aids are available to all athletes, their use should be considered fair practice.	6.5	4.7	88.9
7. As long as there is no physical danger to the athlete involved, the use of ergogenic aids should be considered ethical.	15.9	5.8	78.4
18. The essence of sport is natural competition between two or more people; therefore, the use of outside sources to improve physical performance should be considered unethical.			

The opinions of NCAA coaches and trainers were extremely diverse with reference to items dealing with generally accepted effects of the four drugs (Table IV). This could be attributed to weaknesses in several areas. Research done in the field of ergogenic drugs and athletic performance is scattered world-wide and is difficult for coaches and trainers to assimilate to on-the-job situations even if they were to have it placed at their disposal. Reference books dealing specifically with ergogenic drugs and athletic performance were either out-of-date or non-existent as of a few years ago. Only recently have such texts been made available (9, 12). Even with such sources readily available, it is difficult to keep up with the relatively recent problem of ergogenic drug usage.

TABLE IV
ITEMS DEALING WITH SPECIFIC EFFECTS OF DRUGS

Item	Percent Response		
	Agree	No Opinion	Disagree
9. Amphetamines are of benefit during recovery from athletic performance.	4.1	22.2	73.7
10. Amphetamines are effective in dispelling fatigue during athletic performance.	26.2	23.8	50.0

TABLE IV (Cont.)
ITEMS DEALING WITH SPECIFIC EFFECTS OF DRUGS

Item	Percent Response		
	Agree	No Opinion	Disagree
12. Sedatives are effective in calming an athlete before athletic performance.	37.9	27.0	35.1
14. Androgenic-anabolic steroids are effective in increasing muscle mass in athletes.	49.5	26.7	23.8
16. Local anesthetics are effective in allowing an athlete to continue to play.	65.9	11.3	22.8
17. Local anesthetics used for an athletic injury may allow a more serious injury to occur if the athlete continues to play.	88.6	3.7	7.7
19. Improvement in athletic performance after using ergogenic aids should be attributed to psychological effects only.	25.3	28.5	46.2
20. Relying on the use of ergogenic aids to improve athletic performance may cause harmful psychological effects in the athlete.	73.6	18.9	7.5
36. To make people aware of the possible uses and abuses of certain ergogenic aids, an intensive educational campaign concerning effects and side effects of ergogenic aids should be sponsored by NCAA and directed to coaches, trainers and athletes.	92.6	3.9	3.6

The NCAA coaches and trainers surveyed indicated a need for more information. Ninety-three percent of the respondents agreed that NCAA should sponsor an educational campaign concerning the effects and side effects of ergogenic drugs to be directed to NCAA coaches, trainers and athletes. Correspondence with a National Athletic Trainers Association official indicated that they have no such program (3). An NCAA official said that their Committee on Drugs was collecting a bibliography of such materials but that the project was going slowly due to other more pressing problems, and did not anticipate its completion in the near future (11).

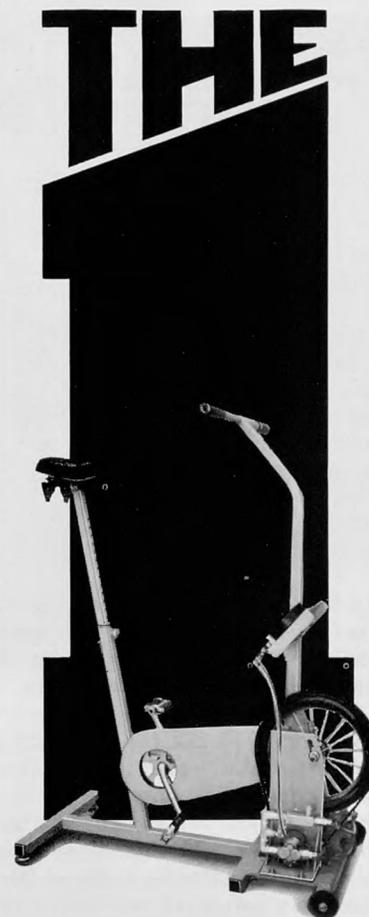
Guidelines Needed

Although the respondents believed they needed more information concerning the effects of drugs on athletic performance, 80 percent felt that NCAA should not wait and see what happens before instituting guidelines to control the use of such drugs in competition (Table V). Apparently they considered the problem too hazardous or too immediate to just let it go for awhile.

A number of items attempted to discern reasons why the respondents felt guidelines were needed. Seventy-three percent of the NCAA coaches and trainers expressed confidence in the athletes themselves; they did not feel a highly skilled athlete would use *any* method available to improve athletic performance. However, 86 percent believed that athletes began using drugs before they knew the actual effects and side effects of these ergogenic aids.

TABLE V
ITEMS DEALING WITH REASONS
SUPPORTING GUIDELINES

Item	Percent Response		
	Agree	No Opinion	Disagree
21. Athletes who use ergogenic aids generally do so without the knowledge of their coach.	57.3	20.6	22.1
22. Athletes who use ergogenic aids generally do so without the knowledge of their athletic trainer.	57.6	20.8	21.6
23. The use of ergogenic aids is usually initiated at the advice of the coach.	10.1	25.7	64.2
24. The use of ergogenic aids is usually initiated at the advice of the athletic trainer.	6.3	23.3	70.4
25. The use of ergogenic aids is usually initiated by the athlete.	71.3	22.2	6.5
26. Athletes usually begin using ergogenic aids after experimenting with them outside of athletics.	40.9	40.2	18.9
27. A highly skilled athlete will generally use any method available to improve performance.	17.6	9.2	73.1
28. Ergogenic aids are used extensively by male and female athletes at the Olympic level of competition.	20.1	49.0	31.0
29. The increased emphasis on competition and winning has encouraged the use of ergogenic aids by athletes.	74.4	9.2	16.4
30. Athletes often begin using ergogenic aids before knowing the side effects.	86.2	9.4	4.4
31. If male intercollegiate athletes are allowed to use ergogenic aids during the athletic season, they often will continue to use them after the sport season has finished.	54.5	34.1	11.5



FITRON® CYCLE-ERGOMETER

the one designed specifically
for the athlete in training.

The one . . .

Cycle-Ergometer with **Isokinetic accommodating resistance** which can provide higher work-rates than any other form of exercise.

Exercise Bike **sturdy** enough for your biggest, strongest athlete.

Cycle-Ergometer with **direct work-rate readout** in kilogram-meters or kilocalories per minute.

Exercise bike that easily accommodates a 7 footer with **fast, positive-locking** seat height adjustment.

Cycle-Ergometer that makes possible **more tolerable sustained aerobic work bouts** and **absolute maximum anaerobic training and testing** because of true Isokinetic loading.

As an Exerciser or an Ergometer, FITRON is **the one** for athletes.

Call or write:

LUMEX Inc.
CYBEX DIVISION

Lumex, Inc. — Sports Medicine Dept.
100 Spence Street, Bay Shore, N.Y. 11706
(516) 273-2200

TABLE V (Cont.)
ITEMS DEALING WITH REASONS
SUPPORTING GUIDELINES

Item	Agree	Percent Response	
		No Opinion	Disagree
32. The number of male intercollegiate athletes using ergogenic aids at the present time is very small.	39.2	41.3	19.5
33. NCAA should adopt a 'wait and see' attitude toward establishing guidelines aimed at the use of ergogenic aids by male intercollegiate athletes.	12.8	6.8	80.4

Seventy-four percent of the coaches and trainers considered that the greater emphasis on competition and winning contributed to the use of drugs by athletes. The respondents also indicated that the athlete usually initiated the use of drugs - not the coach or trainer. Over half of those surveyed felt the use of drugs by an athlete would probably continue past the sport season.

Another interesting indication from this study concerned the awareness of coaches and trainers toward the use of drugs by their athletes. Over 20 percent believed that coaches and trainers *do* know of the use of drugs on their squads. No indication was given as to whether the practice was advocated or merely tolerated. There was also no clear response on the number of male intercollegiate athletes presently believed to be using drugs or on the extent of drug use at the Olympic level.

The guidelines suggested in the questionnaire were supported, but not overwhelmingly (Table VI). Sixty-five

TABLE VI
ITEMS DEALING WITH
SUGGESTED GUIDELINES

Item	Agree	Percent Response	
		No Opinion	Disagree
4. If an athlete normally uses a drug to arrest a physical condition such as asthma or emphysema, he should be allowed to participate in his sport while under the effect of this drug.	87.1	3.6	9.3
34. Examinations to discern the presence of ergogenic aids in competing athletes should be instituted at NCAA National Championships.	65.0	11.7	23.3
35. NCAA policies should require a statement, signed by each individual athlete, that the athlete will not use ergogenic aids during the athletic events.	52.0	17.6	30.4

percent of the population responding indicated that NCAA should institute examinations to discern the presence of ergogenic drugs in athletes competing at NCAA National Championships. Over 50 percent believed that all athletes should be required to sign a statement that he will not use ergogenic drugs during the athletic events. These two control programs have been used with some success at the Olympic level (2, 5).

Because of recent interest in the use of prescription drugs during competition, a more specific guideline was suggested. Eighty-seven percent of the coaches and trainers felt that if an athlete normally uses a drug to arrest a physical condition such as asthma or emphysema, he should be allowed to participate in his sport while under the effect of this drug.

Conclusions

Of the various opinions elicited in this survey, the need for more specific information appears to be top priority. Further controls of the use of ergogenic drugs by male intercollegiate athletes are called for by the respondents. However, the need for and efficacy of these controls must first be understood by the coaches, trainers and athletes involved. •

BIBLIOGRAPHY

- Clarke, K.S., Editor. *Drugs and the coach*. Washington, D.C.: American Alliance for Health, Physical Education, and Recreation, 1972.
- De Merode, A., and others. *Doping*. Lausanne: Medical Commission of the International Olympic Committee in cooperation with the Organizing Committee for the Games of the XXth Olympiad Munich 1972 and the XIth Olympic Winter Games Sapporo 1972, 1972.
- George, F. *Letter* to Willa D. Meylink, February 11, 1975.
- Gilbert, B. "Drugs in sport: a three part series." *Sports Illustrated* 30:64-72, June 23, 1969; 30:30-42, June 30, 1969; 30:30-35, July 7, 1969.
- Hanley, D.F. "Effects of drugs on athletes." Division of Men's Athletics, 1974 National Convention of the American Alliance for Health, Physical Education, and Recreation, Anaheim, California.
- Jones, H. "Get high on sports not drugs." Shawnee Mission, Kansas: NCAA, 1972.
- Manual of the National Collegiate Athletic Association*. Shawnee Mission, Kansas: NCAA, 1972.
- Manual of the National Collegiate Athletic Association*. Shawnee Mission, Kansas: NCAA, 1976.
- Morgan, W.P., Editor. *Ergogenic aids and muscular performance*. New York: Academic Press, Inc., 1972.
- Porritt, A. "Doping." *Journal of Sports Medicine and Physical Fitness* 5:166-68, September 1965.
- Pritchard, R.W. *Letter* to Willa D. Meylink, November 1, 1974.
- Williams, M.H. *Drugs and athletic performance*. Springfield, Ill.: Charles C. Thomas, Publ., 1974.



No Matter Which Itch

**For jock itch
and athlete's foot**

Tinactin Cream

- Begins to relieve itching, burning within 24 hours
- Actually kills most skin ringworm fungi

Tinactin[®]

brand of tolnaftate, U.S.P., 1%

Professionally preferred

Also available in Powder and Powder Aerosol to help prevent athlete's foot reinfection.

Schering

The 1976 Schering Symposium on Low Back Problems



BASIC ANATOMY AND BIOMECHANICS OF THE LOW BACK IN RELATION TO LOW BACK PAIN

by
James R. Urbaniak, M.D.
Associate Professor
Division of Orthopaedic Surgery
Duke University Medical Center

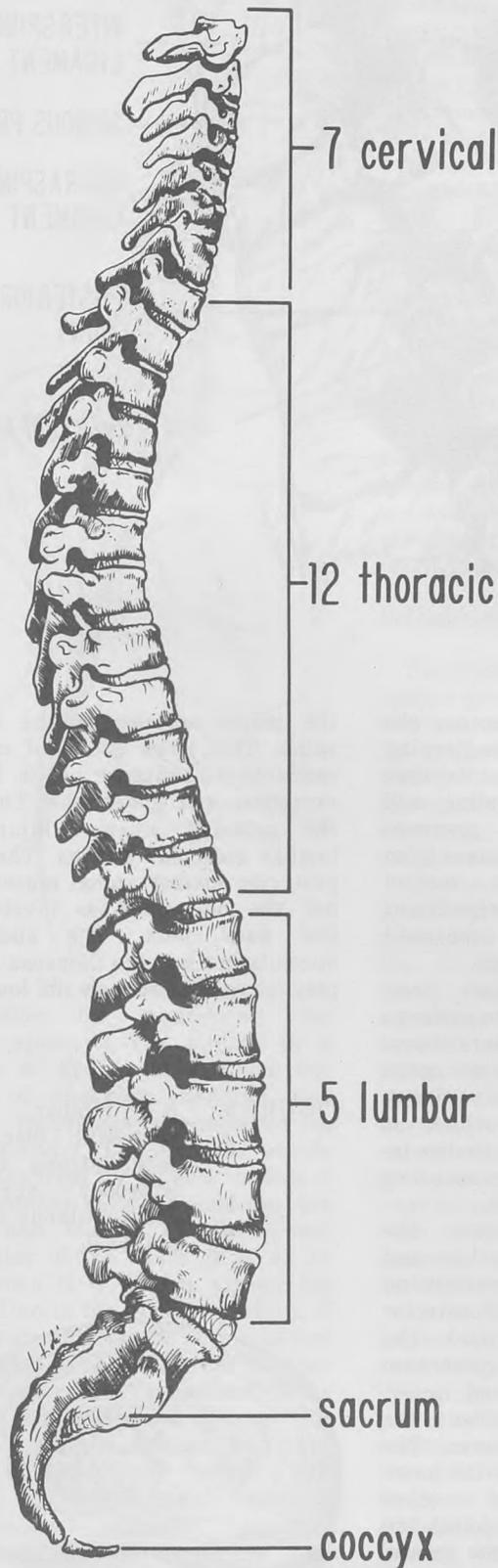
Edited By
Rod Compton, A.T.,C.
East Carolina University

The human spine is a phenomenal structure that can withstand the forces of 1000 pounds pressed by a weightlifter, yet is flexible enough to nearly bend on itself during the contorsions of a gymnast. An understanding of the remarkable anatomic and mechanical charac-

teristics of the vertebral column is essential in the care of athletes who frequently suffer from low back injuries because of the stresses placed on this area of the body in basically all sports. Although there is an abundant amount of knowledge pertaining to the anatomy and

biomechanics of the lumbar spine, the accurate source or etiology of most low back pain remains obscure. However, application of principles based on the functional anatomy of the lumbar spine enables us to prevent many low back injuries and to rationally treat the injured back.

FIGURE 1. The human vertebral column is generally composed of 33 vertebrae. The lumbar spine is the area related to low back pain.



ANATOMY

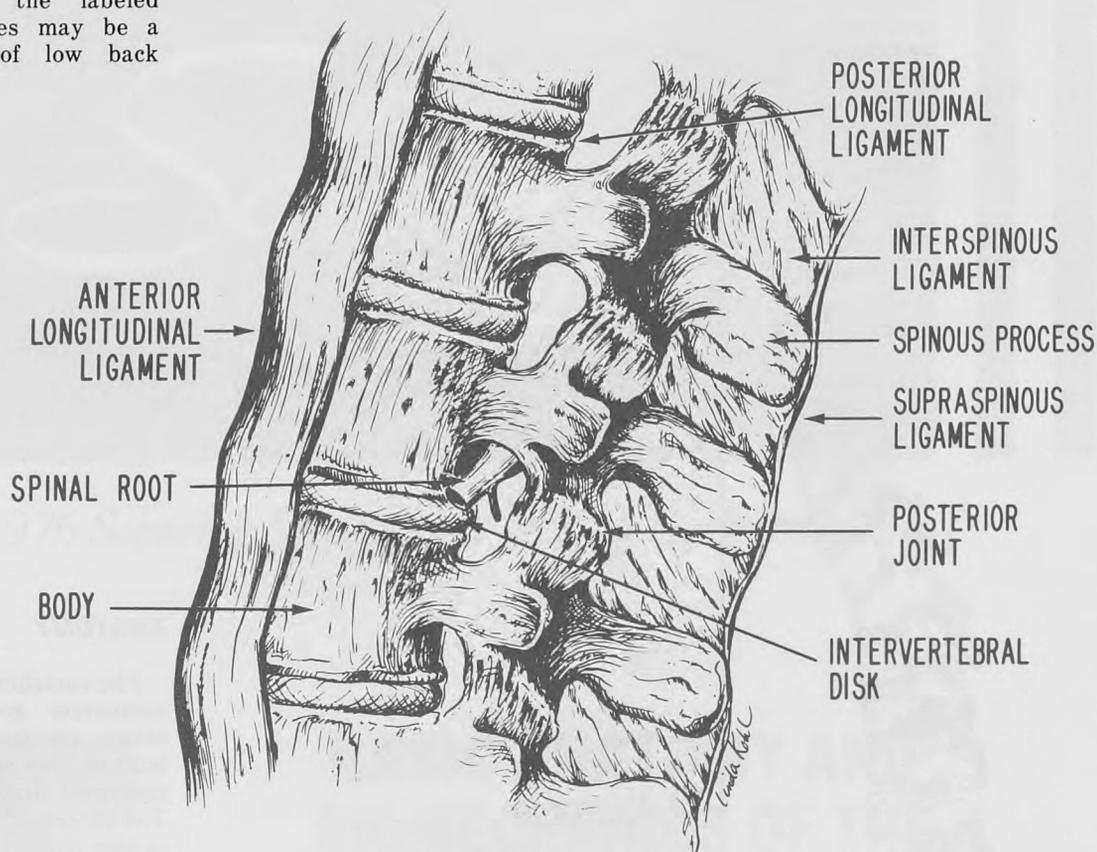
The vertebral column consists of 33 vertebrae, generally arranged as seven cervical, 12 thoracic, five lumbar, five sacral (fused) and four coccygeal (fused) vertebrae (Fig. 1). The 24 presacral vertebrae increase in size from the first cervical to the fifth lumbar vertebra. In the early fetus the spine is C-shaped with the convexity dorsally.

The cervical curve develops when the infant begins to hold his head up, and the lumbar curve becomes established when the child begins to stand and walk. The capacity of the spine to absorb a considerable shock such as the fall of a pole vaulter is attributed to both the curved spine and the discs, which are excellent shock absorbers. Further description will be confined to the lumbar spine, the area of the source of low back pain.

The lumbar vertebra are relatively massive bony structures which are basically composed of four segments (Fig. 2): 1) the body, designed to transmit forces; 2) the pedicles and lamina, which protect the spinal cord; 3) the spinous and transverse processes, which serve as attachments for the ligaments and muscles; and 4) the facets which control the motion between vertebrae.

The lumbar intervertebral discs are much larger than the thoracic discs and provide for a great range of motion in all three spatial axes. In the lumbar area, the discs contribute to one-third the height of the lumbar column. Each disc consists of two parts; the outer annulus fibrosus and the central nucleus pulposus (Fig. 3). Thin plates of hyaline cartilage are

FIGURE 2. The lumbar vertebrae. All of the labeled structures may be a source of low back pain.



interposed between the discs and the spongy bone of the vertebral body. These cartilaginous plates prevent the nucleus pulposus from herniating into spongy bone of the adjacent vertebral bodies.

The annulus fibrosus is composed of fibrocartilage with the fibrous elements predominating. The fibers are arranged obliquely between the vertebrae. In each concentric layer the oblique fibers are perpendicular to each neighboring layer. This structure gives the disc bond its elasticity and strength. The inner fibers of the annulus blend with the nucleus pulposus. Therefore there is no distinct boundary between the nucleus and the annulus. The annulus is thicker anteriorly and laterally than posteriorly. This in part accounts for the propensity of the disc to herniate posteriorly and produce the pain of sciatica.

The nucleus pulposus is a gelatinous substance located in the center of the disc. It has a strong capacity to imbibe water and its water content may be as high as 90% by weight. The water content varies with pressure and age. For example, a young adult male may be as much as three-fourths of an inch taller in the morning than in the evening. This

height variation occurs because the nucleus absorbs water in the sleeping hours, and during the daytime activities of sitting, standing and working, the resulting pressure produces a loss of water content from the disc material and thus a loss of height. This may be a significant factor for athletes who are concerned about their height recordings.

Unfortunately, the two components of the disc begin to undergo degeneration at about 25 years of age. The nucleus pulposus becomes more dehydrated and the annulus begins to become fibrillated. The athlete is therefore very susceptible to disc injuries at the peak of his career⁸ or before he is thirty years old.

Ligaments firmly fasten the vertebrae and discs together and provide stability while permitting flexibility. The anterior and posterior longitudinal ligaments bind the vertebral bodies, and the ligamentum flava, intertransverse, and interspinous ligaments stabilize the posterior vertebral structures. The facet joints have a synovial membrane and capsule similar to other joints in the body. These joints are thus susceptible to the same painful arthritides as any other joint.

The erector spinae muscles form

the major muscles of the lumbar spine. This large group of muscles connects the posterior pelvis, lumbar vertebrae and lower ribs. They are the primary muscles injured in lumbar muscular strains. The large posterior lumbar spinal muscles are not the only muscles involved in low back pain. The abdominal musculature and the iliopsoas muscle play a significant role in low back

FIGURE 3. A lumbar intervertebral disc. The outer strong annulus fibrosus surrounds the gelatinous nucleus pulposus.

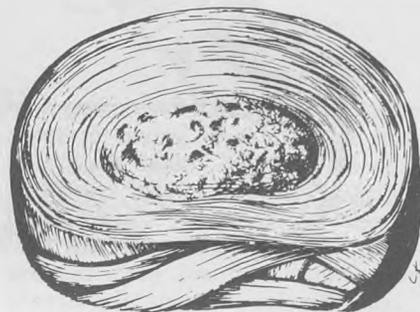
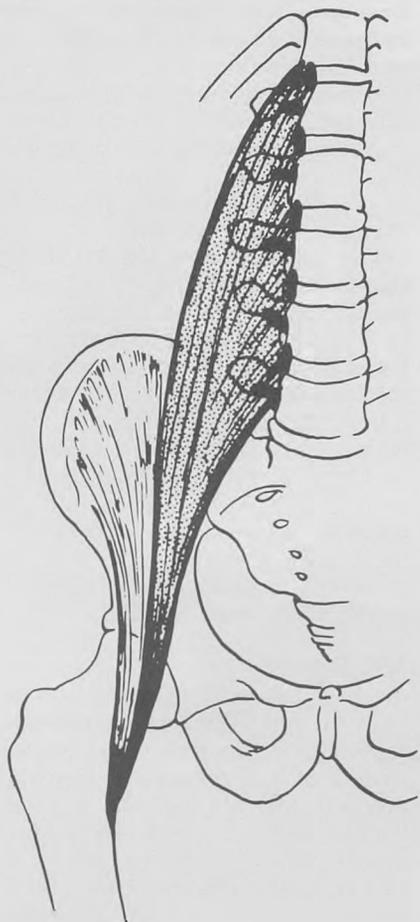


FIGURE 4.

The iliopsoas muscle is a strong fiber flexor. Since it originates from the anterior surface of the lumbar vertebrae, activity of this muscle increases lumbar lordosis and back pain.



problems. The abdominal muscles are responsible for positioning the lumbar spine of the athlete in a position of flexion to diminish the forces of shearing, bending and torsion frequently encountered in sports activity. The iliopsoas muscle originates from the anterior bodies of all the lumbar vertebrae and the iliac wings and inserts on the lesser trochanter of the femur (Fig. 4). In the human it is a very strong hip flexor. Due to the upright position of the human, this muscle is in constant contraction and pulls the lumbar spine into lordosis. In contrast, in the four legged position of the cow this muscle is usually relaxed, and thus serves as the very tender filet mignon. Conditioning exercises should be directed towards increasing the spinal erector and abdominal muscles while not stressing the iliopsoas.

The lumbar spinal nerves exit from the spinal canal through the intervertebral foramina and form together to descend down the lower extremity as the sciatic nerve (Fig. 2). Due to the juxtaposition of the nerve roots to the intervertebral discs, the nerves are very susceptible to compression by a bulging or herniated disc. The result of the nerve root impingement is low back and/or lower extremity pain.

The spinal nerve roots are not the only source of low back pain(3,7). Free nerve endings are present in the anterior and posterior longitudinal ligaments, the annulus fibrosus and the interspinous ligaments(4). Therefore, injury or abnormal mechanical stresses in these structures can result in low back pain. The facet joints and fascia of the large back muscles also have sensory innervation and thus injury to these areas produce pain and muscle spasms. Since the lumbosacral junction is the area of greatest motion in the lumbar spine and also the region of greatest anatomical or congenital variations, pain frequently has its origin from this level.

BIOMECHANICS

The stability and flexibility of the lumbar spine depends on intrinsic and extrinsic structures. The discs and ligaments are the intrinsic support, while the extrinsic influencing structures are the thoracic and abdominal cavities with their associated muscles.

The lumbar disc behaves similar to a universal joint and allows for a great deal of flexibility. Because of the plastic qualities and the high liquid content of the disc it functions according to the principles of hydrodynamics. The disc flexibility allows lumbar motion in all axial planes. The fluid properties of the nucleus distribute the forces applied to the disc uniformly over the end plates of the vertebral bodies. If the angulation or torsion is too severe, then the distribution of forces become unequal and disc herniation or vertebral body fractures will occur.

In the lumbar area the facets are located more posteriorly than in the remaining spine (Fig. 1 & 2). Therefore the axis of rotation is posterior to the discs and excessive rotation exerts a shearing stress on the disc. The discs fail mainly in torsion (a frequent stress in athletes) and Farfan has shown that greater than three degrees of rotation at an interspace can lead to failure of the outer annulus.(1)

The disc substance tends to push the vertebrae apart while the supporting ligaments pull the bodies together, thus creating a strong but flexible bond. However extrinsic support is necessary or the spine would collapse, for example consider the flacid condition of the spine of an unconscious person. The spinal muscles, and the supporting structures of the chest and abdominal cavities play extremely important roles in providing stability while decreasing the stress on the spine.

The abdominal muscles act in a highly coordinated manner to minimize the severe stresses of torque, shear and compression on the lumbar spine.(1) These muscles function to position the spine for maximal power and efficiency. The muscles of the abdominal wall are responsible for positioning the spine in flexion to neutralize harmful stresses on the spine. (1)

In the laboratory the lumbar disc in the young adult will tolerate forces of about 500 Kg prior to injury to the vertebral plate or disc. However the thoracic and abdominal cavities act as cylinders composed of air and liquid with rigid muscular walls to diminish the stresses on the spine during strenuous activity.(5) Particularly when the airway is closed, the intrathoracic and intra-abdominal pressures absorb a great amount of the force that would otherwise be transmitted to the spine. This unit action results in a dramatic relief of forces on the disc and bony structures of the spine.

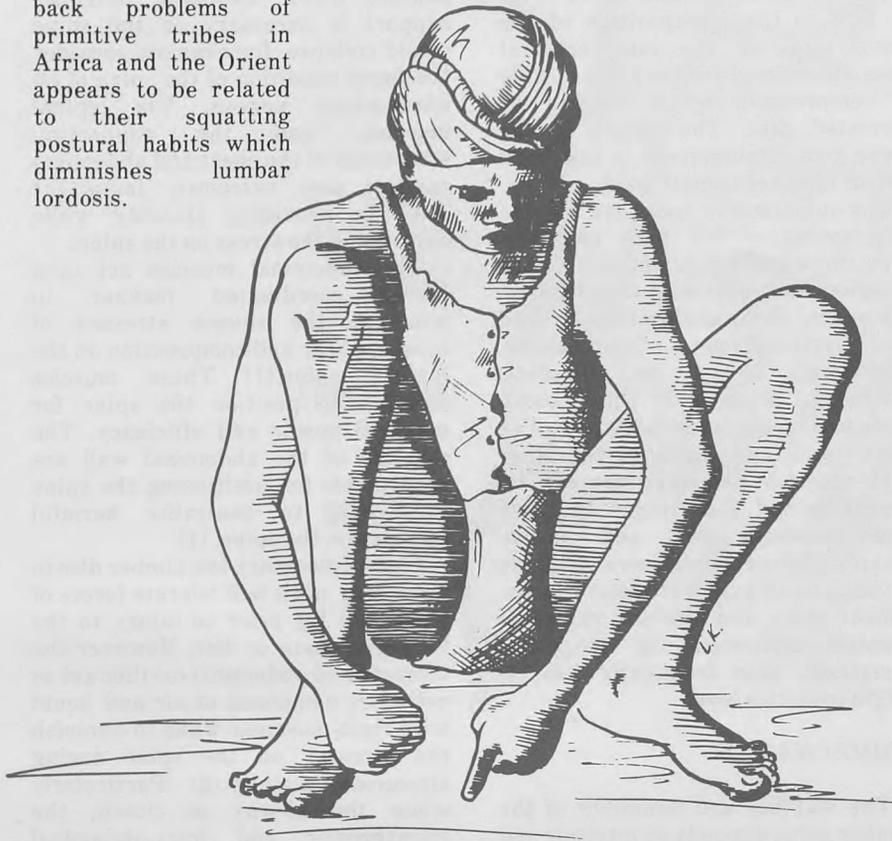
CLINICAL APPLICATION

Although it has been popular to blame man's upright position as the major cause of back pain, our knowledge of the anatomy and biomechanics of the spine has revealed that this is an over simplification. Furthermore veterinarians have demonstrated that many types of animals have back pain. (6)

Although there has been an overemphasis on phylogeny's role in the production of low back pain, postural habits of different cultural groups appear to influence lumbar disc disease. Studies of primitive tribes in Africa and the Orient, where the populations sit in a squatting or cross-legged position on the earth or floor, have revealed a very low incidence of back strain or lumbar discogenic problems.(2) These postural attitudes correct the lordotic position of the lumbar spine and thus

FIGURE 5.

The low incidence of back problems of primitive tribes in Africa and the Orient appears to be related to their squatting postural habits which diminishes lumbar lordosis.



diminish disc degeneration (Fig. 5).

In our Western culture we are taught at an early age to sit straight in chairs, and stand in the military press position. These postural habits increase lumbar lordosis and thus favor disc degeneration. Postural correction to diminish lumbar lordosis does lessen the stresses on the lumbar discs and will frequently alleviate pain. However it is of little value to instruct the athlete in pelvic tilt or William's exercises on the

lower back, if he does not assume the correct posture the remaining hours of the day.

A rational program of prophylactic and therapeutic measures may be derived from a basic knowledge of the anatomic and biomechanical principles of the lumbosacral spine. Of prime importance is that any reasonable exercise is good for the back, since good back and abdominal muscle strength diminish stress and fatigue on the spine. The significance

the role of strong abdominal muscles in reducing the forces on the vertebral bodies and discs has been emphasized.

Abdominal exercises such as "sit-ups" should be performed with the knees and hips flexed to eliminate the iliopsoas which tends to pull the lumbar spine into an undesirable lordotic position. All back and abdominal exercises should be structured to decrease lumbar lordosis. If an athlete has had a low back injury, then after an adequate period of rest, a period of isometric exercises should precede isotonic exercises. Studies have shown that the intradiscal pressure measurements are significantly less during isometric exercises.

The athlete with a back problem should be encouraged to assume a position of the buttocks being tucked to diminish lordosis essentially 24 hours a day. He should learn to keep the back out of lordosis in the sitting, riding, sleeping, standing, and working postures. If the athlete has a back problem, a lumbosacral corset is useful. The corset does not immobilize the spine, but increases the pressure on the abdominal wall, and therefore lessens the forces on the lumbar discs.

SUMMARY

The lumbar spine is a remarkable anatomic structure since it can withstand tremendous stresses while possessing great flexibility. Since the lumbar discs undergo the natural process of degeneration before the age of thirty, the low back is very susceptible to injury during athletic endeavors. A working knowledge of the anatomy and biomechanics discussed in this article provides the clinician with a rational approach to the prevention and treatment of low back problems in athletes.

BIBLIOGRAPHY

1. Farfan, H.F.: "Muscular Mechanism of the Lumbar Spine and the Position of Power and Efficiency." *Ortho. Clin. of North America* 6:135-144, 1975.
2. Fahrni, W.H.: "Conservative Treatment of Lumbar Disc Degeneration: Our Primary Responsibility." *Ortho. Clin. of North America* 6:93-103, 1975.
3. Goldner, J.L., Urbaniak, J.R. and McCollum, D.E.: "Anterior Disc Excision and Interbody Spinal Fusion for Chronic Low Back Pain." *Ortho. Clin. of North America* 2:543-568, 1971.
4. Hirsch, C., Ingel, B. and Miller, M.: "The Anatomical Basis for Low Back Pain. Studies on the Presence of Sensory Nerve Endings and Ligamentous Capsular and Intervertebral Disc Structures in the Human Lumbar Spine." *Acta Orthop. Scand.* 33:1-17, 1963.
5. Morris, J.M.: "Biomechanics of the Spine." *Arch. Surg.* 107:418-423.
6. Nachmenson, A.L.: "The Lumbar Spine - An Orthopaedic Challenge." *Spine* 1:59-71, 1976.
7. Urbaniak, J.R., Bright, D.S. and Hopkins, J.E.: "Replacement of Intervertebral Discs in Chimpanzees by Silicone-Dacron Implants: A Preliminary Report." *J. Biomed. Mater. Res. Symposium No. 4: 165-186, 1973.*



Introducing

The OEC “custom-fit” immobilizers.

Each one of these new orthopaedic supports from OEC can be fitted more precisely to more patients. Each support, from head halter to heel protector, can be adjusted to fit the widest range of patient sizes.

The most notable advantage of these supports, however, is the custom fit you can achieve for every patient. And as swelling is reduced, or bandages are removed, the OEC “custom-fit” supports can easily be refitted.

The materials selected by OEC for these supports add an extra measure of comfort and durability. A special foam grips firmly, molds comfortably to patient contours. All supports are completely washable, and will retain their strength through long use.

The OEC series of “custom-fit” supports is clearly labeled for speedy, accurate selection and inventory. Ask your OEC representative for a demonstration soon of the complete series, and find out how OEC can help reduce your inventory cost.

OEC[®]
ORTHOPEDIC
EQUIPMENT COMPANY
BOURBON, INDIANA 46504

OEC products are available worldwide through OEC (Canada) and Zimmer-Great Britain.

POTPOURRI

by
Dennis Aten, A.T.,C.
Eastern Illinois University

Heat Illness

Several points regarding heat illness were stressed in a recent study at Northeast Louisiana University. These points are as follows:

1. Weight loss or sweat loss is more a function of the effort expended than it is of the environmental temperature.
2. Ready access to fluids during practice and prompt, full rehydration after practice will hasten physiologic recovery. We feel it will also reduce fatigue and improve performance.
3. Extra salt is not routinely necessary. At the present time we do not recommend non-dietary supplementation until the daily calculated sweat loss exceeds $2\frac{1}{2}$ liters or approximately $5\frac{1}{3}$ pounds.
4. We have been able to confirm that vigorous sweating and/or athletic activity can cause a mild potassium loss, but we do not feel it needs to be a matter of immediate special concern. It should be of concern only when there is a coexistent cause for potassium loss, such as

inadequate diet, diarrhea, or use of diuretics.

5. We believe adequate hydration is an important, but not the only ingredient needed for preventing heat-related injuries.

Taping Vs. Casting

A study on 47 midshipmen at the Naval Academy comparing daily taping and casting on single ligament tears and double ligament tears. Jay Cox from the Naval Hospital in Annapolis reported to the American College of Sports Medicine that "taping and cast immobilization result in comparable stability in regard to ligament strength as determined by talar tilt and frequency of recurrence. However, daily taping is the preferred method of treatment because (1) there is far more rapid return to full activity; (2) there is less muscle atrophy from taping than from cast immobilization; (3) full range of ankle joint motion is achieved much more rapidly with taping; and (4) daily taping is much more comfortable for the patient than a plaster cast.

Football Helmet Effectiveness

A report given in Anaheim at the Annual meeting of the American College of Sports Medicine indicates that the effectiveness of the football helmets diminishes with age and use. This indicates that athletic departments should evaluate their football helmets with increasing frequency as the helmet gets older. A helmet used by an active "hitter" for four years no longer has the same protective qualities as when it was new even if it looks in good shape.

Physical Conditioning Related Injuries

Another study reported at the 1976 Annual meeting of the American College of Sports Medicine reviewed injuries occurring during a seven month training program designed to prepare a military unit for combat. 580 male volunteers passed a medical examination and a physical training test. Overuse syndromes were minimal, however there were 403 athletic type injuries requiring temporary removal from daily physical training and 19 orthopaedic

Dakon Whirlpool Baths

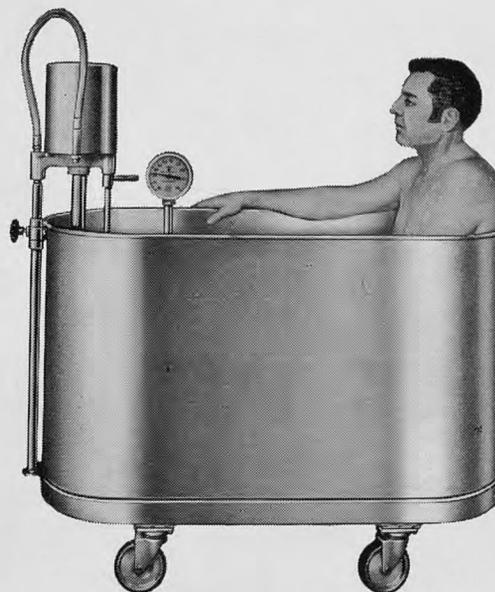
are **8** reasons better:

- Special analysis underwater bearing material allows turbine to operate indefinitely out of water without harm to motor or bearing.
- Special heat treated S/S drive shaft.
- Turbine has heavier castings.
- Thicker walled tubing.
- Motor, pump, impeller, precision coupled.
- Longer bearing wear.
- No whipping action - quieter operation.
- Integral aerator - turbine - unique drainage system.

What's more, Dakon baths have been preferred for more than 30 years in clinics, hospitals, homes, geriatrics centers and armed forces rehab. posts. They are efficient, durable and lower cost.

Our complete line includes 2 portable models for home or vacation; single and dual motor professional Whirlpool baths and Hubbard tanks.

Send for new catalog.



Dakon CORPORATION

1836 Gilford Ave., New Hyde Park, N.Y. 11040

discharges. It was interesting to note that 69 of the injuries and 11 of the discharges were related to previous football injuries. It would be further interesting to determine the type and scope of rehabilitation received at the time of the original injury.

Professional Obsolescence

Most athletic trainers are all too painfully aware of the lack of up to date knowledge of coaches in health related areas. A study reported in the December, 1975 issue of the *Journal of Sports Medicine* strongly supports this idea. Only 6% to 23% of physical educators and coaches had scores indicating they had current knowledge in sports medicine related areas. The areas broken down by the study included athletic training and conditioning, exercise physiology, and adaptive physical education. Of course that means athletic trainers also must make every opportunity to attend continuing education courses to prevent our own knowledge obsolescence.

Medical Assistance

Where have some physical educators been? In the April, 1976 issue of *Physical Educations News* the following excerpt from an article

on legal consideration was printed. (Medical Assistance and First Aid)

"Coaches should never conduct a practice session or contest without a plan for medical assistance in the event of injury. This might take the form of a nurse being on the school premises or a physician present at a contest. It might also include a procedure to follow where immediate medical assistance can be obtained from the other trained individuals.

The wise coach has a valid first aid card at all times. First aid procedures are recognized by the courts as acceptable methods of be used. In California the law provides that coaches in the absence of medical help must administer first aid if an emergency exists."

Note that no mention is made of athletic training or an athletic trainer. This was true the entire article.

Detroit

Something different is being planned for Detroit in 1977. The theme is back to the basics. The program speakers will be comprised of fellow trainers talking about training techniques and answers to our everyday problems. It sounds like an interesting program is in the offing.

Licensure

Licensure was a much discussed topic at this year's national convention. A licensure law does not require any one to hire an athletic trainer, but it does limit those who profess to be an athletic trainer to have proper and minimal qualifications. This type of law also recognizes the practice of athletic training as legal activity within the confines as described in the law.

It is widely felt by NATA leadership because of malpractice, the legality of practicing athletic training, the welfare of our profession that it is now time to actively pursue licensure. This must be done at the state level. Since, in most states, there is no organization to handle this task it is recommended that state licensure committees be formed to pursue licensure. This must be done at the state level. Since, in most states, there is no organization to handle this task it is recommended that state licensure committees be formed to pursue this goal.

If you are interested in what your state is doing regarding licensure contact your state representative or your district director. Get involved in your professional advancement. ●



OTHO DAVIS
Executive Director

ADVERTISING ADVANTAGES



ATHLETIC TRAINING

THE JOURNAL OF THE NATIONAL ATHLETIC TRAINERS ASSOCIATION

Editor-in-Chief
and Journal Committee Chairman:

Rod Compton
Sports Medicine Division
East Carolina University
Greenville, North Carolina 27834
Telephone: 919/757-6426

Editor:

Clint Thompson
Department of Athletics
Michigan State University
East Lansing, Michigan 48823

Advertising Representatives:

Eastern Associates
P.O. Box 1865
Greenville, North Carolina 27834
Telephone: 919/752-1725

October 8, 1976

Circulation for ATHLETIC TRAINING,

The Journal of The National Athletic Trainers
Association has tripled in the past 2 years.

ATHLETIC TRAINING

has developed into a fine quality magazine,
well designed graphically, printed on quality
enamel paper with color added tastefully
throughout, thus presenting an attractive format.

Please consider the advantages to inform

those suppliers you purchase from who are not
already ATHLETIC TRAINING advertisers so
that other Athletic Trainers and sports medicine
related professionals can be informed as to the
products you are now successfully using.

I encourage you to patronize those advertisers

who contribute to making our Journal, ATHLETIC
TRAINING, the prestigious publication we now have.

Sincerely,

Otho Davis
Executive Director

PRESIDENT
FRANK GEORGE
Brown University
Department of Athletics
Providence, Rhode Island 02912
Telephone: 401/863-2211

EXECUTIVE DIRECTOR
OTHO DAVIS
Philadelphia Eagles
Veterans Stadium
Philadelphia, Pa. 19148
Telephone: 215/463-2500



ROD COMPTON, Director of Sports Medicine at East Carolina University who is Editor-in-chief and Journal Committee Chairman of NATA discusses training room procedures with MARY EDGERLEY, Director of Advertising and Circulation.



PHYLLIS LANGSTON, Secretary to Editor-in-chief. Keeps it all together with her efficiency and pleasant disposition.



JIM McKNIGHT, Layout - graphically designs and does the final layout to produce the finished product.

These are just a few of the individuals who are responsible for bringing to you *Athletic Training*. Give us a call, (919) 752-1725, we don't work 24 hours a day, but our telephone does! Or contact us by mail:

ATHLETIC TRAINING
 Post Office Drawer 1865
 Greenville, NC 27834

The Effect of Bee Pollen Tablets On the Improvement of Certain Blood Factors And Performance of Male Collegiate Swimmers

by

Ralph E. Steben, John C. Wells, and Ivan L. Harless
Department of Health, Physical and Recreation Education
Louisiana State University, Baton Rouge, Louisiana 70803

Newspaper reports (3,5,19) have extolled the rejuvenating quality of bee pollen tablets on the body with attendant testimonials of "how the athlete and trainer feel" about the product. However, there has been very little, if any, support for such claims in the scientific literature. Athletes may be using them, but supporting evidence of the possible value of ingesting bee pollen tablets for improvement of athletic performance had been difficult to obtain in the United States, because of the recency of the practice and the expense of the product.

To quote Seppo Nuutila, (3), Head Trainer of Finland, "to train 25 miles a day, Lasse (Virin) needs a food intake equivalent to 5,000 calories a day — and there are not enough hours in the day to digest ordinary food and run at that (a demanding) pace. Pollen¹ helps break down food taken in to build red cells to transport oxygen." Millar (17) reported that, while average hemoglobin concentration of the Finnish runners increased from 12 grams/100 ml of blood in 1968 to 16.25 in 1972, no direct correlation between pollen ingestion and hemoglobin increase was established.

A symposium conducted by Cernelle (13) in 1972 reported that Finnish runners using a Swedish pollen product and running the prescribed

daily 25 miles also experienced resistance to colds and influenza as well as showing weight gains. Binding and Donadieu (4, 7) continue the endorsement by describing pollen "as a wonderful, perfect natural food, capable of restoring zest for living; a tonic aiding in either the increase or decrease of weight, as well as containing an antibiotic capable of controlling dangerous bacteria in the intestines."

For some time less conservative Europeans have been using bee pollen tablets made from pollen residue mixed with vitamins for successful treatment of prostatitis (1, 2, 6, 21) bleeding stomach ulcers (9), and for reduction of respiratory infections and allergen reactions (11, 12, 15). Fijalkowski (8) reported improved working capacity of Polish national team weightlifters receiving bee pollen tablets as evidenced by higher increases in stroke volume, systolic pressure and more distinct changes in diastolic pressure. Specific EKG and respiratory parameters also improved and lactate levels decreased significantly.

Of further interest is the recent work of Rose (20) relating to hypokalemia in varsity distance runners. Since potassium is the principle mineral in bee pollen, it is suggested that pollen may be taken to alleviate or prevent this condition, which

manifests itself in muscle weakness and lethargy, in spite of otherwise good aerobic condition. Severe cases, not apt to be seen in athletics, are characterized by decreased smooth muscle contractility and attendant gastrointestinal conditions, cardiac arrhythmias and renal disturbances. (14, 18)

Since athletes, in particular, have shown considerable interest in any potential psychological or physiological advantage over an opponent, the purpose of this study was to investigate certain claims that have been made for the recently adopted practice of ingesting bee pollen tablets for improved athletic performance. A question of interest is whether considerable mileage per day, along with adequate nutrition, or mileage, proper nutrition, plus the pollen tablets are responsible for success in endurance events. Analysis of specific biochemical parameters, especially hemoglobin content and hematocrit, could authenticate suggested improvement of oxygen carrying ability of the blood and test the hypothesis that ingestion of pollen may prevent the hypokalemia that may accompany prolonged vigorous aerobic training.

Procedures

The placebo-double blind ex-

periment was undertaken at Louisiana State University for eight weeks during the Fall Semester, 1975, with 27 volunteer male collegiate swimmers, randomly subdivided into three groups. Each of the eight individuals in Group One (placebo group) orally ingested 10 placebo tablets² daily, after practice or before the evening meal on non-activity days. A similar procedure prescribing 10 pollen tablets was followed by the nine individuals in Group Two (pollen group), while the 10 individuals of Group Three (combination group) took five bee pollen and five placebo tablets. Group Three was to help determine whether half the number of bee pollen tablets were as effective as the 10 tablet prescription of Group Two.

At the beginning of the experiment, blood samples were drawn from each individual for three consecutive days before practice. At the conclusion a sample was drawn from each individual. Extracellular sodium and serum potassium levels were analyzed by an Instrument Lab (IL) flame photometer. Hemoglobin and hematocrit levels were determined by a Cotter S Automatic Counter.

All the participants dined at the

L.S.U. Athletic Training Table, and diet was assumed to be basically the same for all.

Training consisted of a repetition program at the beginning of the season, gradually evolving into an interval program as condition of the swimmers improved. Each individual, regardless of speciality, swam a total of three to four miles per day. Performance data were collected for each swimmer just prior to the beginning of, and again at the termination of, the experiment. Pre-experiment work bouts consisted of a set of 12 x 200 yard freestyle swims, developed for each swimmer so that the starting time for each of the 200's was held constant. Times were recorded for each of the swims, and an average time determined and converted into velocity in yds/sec for statistical analysis. The post experiment performance data were collected in an identical manner two days after completion of the experiment. The data, potassium (K) mEq/L, sodium (Na) mEq/L, hemoglobin (Hgb) gm, hematocrit (Hct) % and performance (yds/sec for average 200 yard freestyle velocity) were statistically examined with the *t* test for correlated means and analysis of covariance. (Table I)

Results

The *t* test revealed a significant improvement in the quantity of extracellular potassium and Hct values in the subjects of the combination Group (III) and Pollen Group (II) respectively, (Table I), but an ANCOVA did not detect any significant improvement over that of the other groups. (Table II & III). None of the groups made significant gains in extracellular sodium or Hgb values, (Table I), therefore no further analysis was done. The *t* tests for improvement in performance were all significant (Table I), however, ANCOVA failed to establish any difference in performance values among the three groups. (Table IV).

Discussion

There is apparently no advantage in taking bee pollen tablets for postulated maintenance of normal extracellular potassium levels for prevention of hypokalemia. It is possible, however, that a longer experiment, e.g. Rose (20), impossible in this study, would reveal more information. It is of interest here that, while Finnish runners did not include pollen in their high protein diets to prevent hypokalemia, physiologically these diets actually enhance renal

TABLE I
t-TESTS OF SIGNIFICANCE
FOR FIVE VARIABLES AFTER
EIGHTS WEEKS OF TRAINING

Group	n	Mean Gain	SE Gain	t	P
Potassium (K)					
Placebo	8	-.11	.14	.79	N.S.
Pollen	9	.13	.08	1.63	N.S.
Combination	10	.36	.11	3.27	.05
Sodium (Na)					
Placebo	8	-1.19	.52	2.29	N.S.
Pollen	8*	.97	.58	1.67	N.S.
Combination	9	.64	.60	1.07	N.S.
Hemoglobin (Hgb)					
Placebo	8	.02	.19	.11	N.S.
Pollen	8*	.15	.13	1.15	N.S.
Combination	10	.18	.22	.82	N.S.
Hematocrit (Hct)					
Placebo	8	.29	.49	.59	N.S.
Pollen	8*	1.03	.33	3.12	.05
Combination	10	1.19	.61	1.95	N.S.
Performance					
Placebo	8	.11	.02	5.5	.05
Pollen	9	.12	.01	12.0	.05
Combination	10	.13	.01	13.0	.05

n 8, needed for significance at .05 level, 2.36.
n 9, needed for significance at .05 level, 2.31.
n 10, needed for significance at .05 level, 2.26.
*Groups decreased due to subject drop out.

TABLE II
ANACOV FOR LEVELS
OF SERUM POTASSIUM
IN THREE SAMPLE GROUPS

SOV	Adj SS	df	M ²	F	P
Between	0.42	2	.21	2.10	N.S.
Within	2.25	23	.10		
Total	2.67				

F needed for significance at .05 level, 3.42

TABLE III
ANACOV FOR
BLOOD HEMATOCRIT
IN THREE SAMPLE GROUPS

SOV	Adj SS	df	M ²	F	P
Between	3.72	2	1.86	.87	N.S.
Within	46.81	22	2.13		
Total	50.53				

F needed for significance at .05 level, 3.44

TABLE IV
ANACOV OF IMPROVEMENT
IN PERFORMANCE OF
THREE SAMPLE GROUPS

SOV	Adj SS	df	M ²	F	P
Between	.01	2	.005	1.67	N.S.
Within	.07	23	.003		
Total	.08	25			

F needed for significance at .05 level, 3.42

potassium excretion. Biochemically, sulfates formed during high nitrogen intake are excreted with their full base equivalents, increasing prospects for potassium depletion. The 1972 Olympic Games efforts of Finnish endurance runners, however, was not only conspicuously marked by excellent aerobic condition, but also by apparent neuromuscular zest for running. The fact remains, however, that there is no substitute for a regular diet, supplemented with potassium rich citrus and bananas, for maintenance of normal serum potassium levels.

Extracellular sodium values were included as a variable in the study because the blood analysis procedures employed allowed computation of both potassium and sodium values in one operation. Sodium levels could diminish if taking too many pollen tablets increased potassium levels inordinately, producing a hyperkalemia. However, this did not occur with the dosages used. There have been reports of far greater amounts of pollen taken on a daily basis without ill effects. (7, 11, 20) Clinically, hypokalemia is treated by administering as much as 40 mEq of potassium chloride three to four times daily, usually not to exceed a total of 160 mEq during the first 24 hours in more severe cases (18). A flame photometer assay of the product used in this experiment did not exceed 0.088 mEq of potassium per 500 mg tablet.

Millar (17) reported no direct correlation between ingested pollen and hemoglobin increase among Finnish runners. Similarly, no beneficial effects for increased hemoglobin from taking bee pollen were obtained in this study. It is conceivable that the high protein diet followed by Finnish runners for several years (1968-1972), alternated with a high carbohydrate diet a few days prior to competition, may have accounted for the improvement in the average hemoglobin levels of the runners.

Although a significant gain in Hct was evidenced by the Combination Group (III), no difference among groups were detected. An increase in hematocrit as a result of physical activity is normal, however. The degree of physical activity of an individual largely determines the rate at which red blood cells are produced. The fact that exercise increases the rate of red blood cell production is an indication that tissue anoxia causes extra red cell production because the supply of oxygen becomes depleted during exercise. Any theorizing that an increase in either Hgb or Hct can

enhance endurance capabilities of athletes does not consider that the rate of oxygen transport to tissues is actually reduced by an excessive rise in hematocrit (10) Nuuttila's (3, 5, 18) opinion that pollen can somehow improve the transportation of oxygen by the blood is questionable. Even in the compensatory increases during anemia, there is an overall reduction in the rate of oxygen transport to the tissues. (10) One conclusion can be reached here, either the training program for the swimmers was not sufficiently stressful, or they were good condition before the season started.

There does not seem to be any advantage in taking 10 pollen tablets as opposed to half that amount. The prescribed dosage (3-6 tablets daily) should be sufficient for the results advertised in the companies literature. Finally, although performance improved in all three groups, it would seem to be the result of training rather than due to the real or imagined advantage of ingesting bee pollen.

BIBLIOGRAPHY

1. Ask-Upmark, E. "Treatment of prostatitis." *Zeitschrift fuer Urologie and Nephrologie* 56:113-6, March, 1963.
2. Ask-Upmark, E. "Prostatitis and its treatment." *Acta Medica Scandinavica* 181:355-7, March 1967.
3. "Bee prepared." *Track and Field News* 28:48, July, 1975.
4. Binding, C.J. *About pollen*. London: Thorsons Publishers Limited, 1971.
5. "A body builder from the bee's knees." *The San Francisco Chronicle*, page 22, February 28, 1975.
6. Denis, L.J. "Chronic prostatitis." *Acta Urologica Belgica* 34:49-56, January, 1966.
7. Donadieu, Y. *le Pollen*. Paris: Maloine, 1973.
8. Fijalkowski, Andrzej, and others. "Results of studies on effects of taking 'pollitabs' and 'stark protein' drugs on improvement of working capacity of weight lifters." *A.B. Cernelle Symposium for Sportsmen, London: November, 1973*.
9. Georgieva, E. and Vasilex, V. "Symposium on use of bee products in human and veterinary medicine." *International Beekeeping Congress* 23, summer, 1971.
10. Guyton, Arthur. *Textbook of Medical Physiology* Third Edition, 1966, W.B. Saunders, Philadelphia.
11. Helander, E. "Hay fever and pollen tablets." *Grana Palynologia* 2:119-123, 1960.
12. Klapsch, H. "Experiences of fluaxin, an anti-influenza medicine in tablet form." *A.B. Cernelle Symposium for Sportsmen, Helsingborg: July, 1972*.
13. Kvante, E. "The effects of nutritive supplement substances on athletes." *A.B. Cernelle Symposium for Sportsmen, Helsingborg: July, 1972*.
14. Lowenstein, Jerome. "Hypokalemia and Hyperkalemia." *Medical Clinics of North America* 57:1435-39, November, 1973.
15. Malstrom, Stig and others. "Pollen as a prophylatic against the common cold." *A.B. Cernelle Symposium for Sportsmen, Helsingborg: July, 1972*.
16. McQuown, Albert Dr. Personal interview, January 8, 1976.
17. Millar, Scilla Lord. "Flower power pills." *Track Technique* 54:1706-8, December, 1973.
18. Newmark, Stephen R. and Dluhy, Robert G. "Hyperkalemia and hypokalemia." *Journal of the American Medical Association* 231:631-3, February 10, 1975.
19. Nuuttila, Seppo. "Nutrition programme for athletes." *London Sunday Times*, page 21, August 5, 1973.
20. Rose, Kenneth. "Warning for millions: intense exercise can deplete potassium." *The Physician and Sportsmedicine* 3:67-70, May, 1975.
21. Saito, Yutaka. "Diagnosis and treatment of chronic prostatitis." *Clinical and Experimental Medicine* 44:614-29, June 1967.

Preparation of Manuscripts for Publication

by

Ken Knight, A.T.,C.

S.U.N.Y. at Brockport, New York.

Doctorial candidate at the University of Missouri, Columbia, Missouri.

Many articles submitted to *Athletic Training* for publication get bogged down in the review stage because of improper form or poor style. Some potentially good articles are even rejected because poor style obscures their content. To alleviate these problems, the following suggestions are given to members of the NATA to use in preparing manuscripts for publication.

Fishbein (12) reported that the number one reason for articles being rejected by medical journals was "poor organization, failure to follow outline." According to Archer (1), two of the characteristics of a rejected manuscript are lack of clarity and disorganized presentation. If an author's efforts are to result in successful, effective article, he must have an organized plan of attack. This plan of attack includes formulating an idea, compiling a bibliography, writing an outline of what he wants to say, and then constructing an introduction, a body, and a summary or conclusions. Each of these sections will be discussed individually, followed by additional suggestions concerning bibliography and manuscript construction.

BEFORE TAKING PEN IN HAND

A potential author must have something to say before he begins to write. Most trainers have ideas or experiences which, if properly developed, would make an interesting journal article. Perhaps the trainer has a new theory about strength development during the off season and has returned an athlete to competition just seven weeks after knee ligament surgery, or has a question about what type of pregame meal to use.

The next step in the plan of attack is the compilation of a bibliography. Whether it is a case report or a question to be answered, a thorough literature search must be conducted. "You will not be able to write intelligently about any subject in

medicine unless you know what has already been written about it," claimed Beatty (2). He went on to give some very helpful information about how to search the literature through the use of Index Medicus, Science Citation Index, and other indexes. These indexes are normally found in the reference section of the school library. Complete bibliographical information for each promising article should be written on separate 5 x 8 note cards. This size of card will have room for ample notes when the article is read in detail.

Many of the articles referred to in the indexes will have promising titles, but will not relate to the author's subject. However, once a few good articles have been found, their bibliographies will lead the author to many other articles. All articles must be read before they are used as a reference. Even a good scientist, with the best of intentions, may misquote or misrepresent another author (18). Often times this misrepresentation is carried on by an author who did not carefully verify his sources. Many articles will have to be read and discarded during the literature search in order to find a few good articles that directly relate to the present subject.

An outline should be used to guide the author in preparing the first draft. A general outline can be formed by arranging the bibliography note cards into an orderly and logical sequence. Then a detailed written outline should be constructed. This outline will not only help the author to write in a logical and sequential manner, but it will also help him to confine himself to his subject. In addition, the outline will provide headings and subheadings, which are desirable in all but brief communications (9).

When writing the first draft, the emphasis should be on getting ideas down on paper. Concern for details such as proper grammar, punctuation, and spelling will slow the author down and cause him to lose important ideas or thoughts. Once the idea is down on paper, it is preserved.

It can be organized, documented and made readable later.

THE INTRODUCTION

The introduction is the most important part of a journal article (6,16). If properly written, it will captivate the reader's attention, establish the reason for writing the paper, and provide a foundation for the rest of the article. It previews what is to follow in the paper. After reading the introduction, there should be no doubt in a person's mind about what question the author is trying to answer or what problem he is trying to solve.

Shidle (16) advised journal authors to get the main idea of their article into one or two specific, positive statements, and then to use those statements (or a rewording of them) as the opening paragraph of their article. At times, however, an introduction will need to be more than one or two sentences to adequately introduce the subject. At any rate, no matter what the length of the introduction, one or two specific statements should be used to guide its construction.

BODY OF THE PAPER

The body contains all parts of the paper except the introduction and summary or conclusions. It should unfold in a systematic fashion all details of the introductory remarks (6). The format of the body will vary according to the type of paper being written, i.e., experimental report, literature review, case report, etc. (7). Suggestions for writing the body of the types of papers most commonly submitted to *Athletic Training* will follow.

Experimental Report—The body of an experimental report must begin with a brief review of the literature. Such a review can either follow the introductory paragraph as part of the introduction, or it can exist as a separate section. Making it a part of the introduction is probably preferable, as long as the opening

paragraph contains the specific problem with which the paper is concerned. In this review the author tells briefly what others have done and why there is a need to solve the problem he has proposed. A great deal of detail need not, in fact, should not, be presented here. Detail about what other researchers have found belongs in the discussion section.

Next comes the methodology section. The author must explain clearly his experimental methods so that readers will fully understand how he collected his data. Often times a reader will look at data from a different point of view than the author did. In order to apply these data to his problem the reader must know the bounds and limitations of the data. A question that the author might ask himself is, "Could a trained person replicate this study from the information given?" Neither results nor discussions of the experiment should be included here.

The results section should include (in summary form) all data collected, both positive and negative. If a statistical analysis is involved a statistical text or reference should be cited in the bibliography. Pertinent tables, figures, and graphs should be used liberally, but not repetitiously. A few well planned and carefully constructed illustrations can present data more concisely and completely than pages of printed matter. The following instructions for table construction were given by DeBaKey (6);

"... the purpose of a table should be to arrange data of like characteristics in a more concise, intelligible, and vivid form than can be presented in the text. Its title should describe accurately the data it contains. The original number of cases (not just percentages or rates) should be given, and each column should be adequately labeled. Material that has been excluded, with reasons for its exclusion, should be clearly indicated..."

As with the methodology section, the author's comments should not be mixed in with the results. Comments are reserved for the discussion section.

In the discussion section the author relates his data to the problem or question posed in the introduction. Here is where the author makes comments about methodology and the results. Here is where he expresses his critical thinking; critical thinking about his own data and the data of others. Also, ways in which the original thesis is supported or refuted by the data should be discussed. New

ideas or theses, based on data, are proposed. Related studies are discussed, both those that are supported by, and those that are refuted by the present data. Should there be differences between the present data and another study, possible reasons for these differences should be hypothesized.

Literature Review—A successful review paper must be highly organized. Similar studies should be grouped together and discussed in sections. Each major section should have a heading and a brief summary (possibly one sentence). Sections must be arranged so that they progressively focus on the problem or question posed in the introduction.

Implications of the literature to the present problem and the author's own thinking must be interspersed often enough and with enough detail that the reader's attention will be focused on the present problem. Care must be taken, however, to delimit the present authors own thinking so that the reader does not confuse it with a study or paper being reviewed.

Case Report—The body of a case report includes two sections: Report of the case and Discussion (10,15). Aspects of the case are narrated in a clear and straightforward style. In the discussion section the author explains the unique and significant aspects of the case and correlates them with features of previous reports in the literature (15).

Both brevity and detail are important in a case report. This may seem like a contradiction, but the author must keep in mind the potential readership and the purpose of his report as outlined in the introduction. Only information that relates to the case and the purpose of the case should be included. For instance, specific detail about operative procedures is probably not needed in an article about rehabilitation. On the other hand, "the subject began a weight program as soon as he could flex his knee 100°" is incomplete. More detail is needed so that readers can compare this care with their own rehabilitation procedures. "On the fifth day after cast removal, the athlete was able to flex his knee 100° and so was started on a progressive resistive weight program." Such a statement not only tells the criteria for starting the athlete on a weight program, but also how long it took to get him started. Details such as the amount of weight used, how much weight was added each day or week, how the subject reacted to various phases of the rehabilitation program,

are the reasons for writing a case report. Other trainers may have the same criteria (i.e. 100° flexion) for beginning a weight program, but if it takes their athletes ten days to achieve 100° flexion, the case report will give them some food for thought.

The value of a case report to athletic trainers is that the reader can compare the author's techniques of injury prevention and/or injury care with his own. There may be something in the case study that he could use in treating his athletes, or perhaps he could add to the techniques presented in the case (via a letter to the editor). Ideally the case report will spur some readers to think, experiment, and discover new and even better procedures and techniques. Younger and less experienced trainers and students benefit from knowing how various "veterans" handle situations. But these objectives can only be met if the case report is filled with lots of pertinent, specific detail.

Thompson (17) summed up the purpose of a case report in these words:

"... be very specific with respect to information presented i.e., time lapses (time spent in a cast, on crutches, on isometrics) rehab data (type of exercise used, sets, repetitions and weight used) and therapy data, (temperature of cold baths, whirlpools, dosage of ultrasound, etc.). Specificity is the key comparison. Without pertinent information comparing becomes a guessing game."

SUMMARY AND/OR CONCLUSIONS

The conclusions and/or summary section is the second most important part of a journal article (5,6,7). Since some people read only the introduction and conclusions, these sections must contain, in a condensed form, the meat of the article. Also it is important that these sections be constructed so that someone reading only these sections will not be misled about the contents of the article. For those who read the whole article, the conclusion or summary should pull together what has been said in the body of the paper and leave the most important points clear in their minds (5).

A summary is best written in paragraph form, whereas the conclusions are usually presented as a numbered list (9). The summary should cite the pertinent points made in the paper. Conclusions, on the other hand, are logical deductions drawn from experimental or

theoretic evidence presented in the body of the paper (9).

THE BIBLIOGRAPHY

The primary purpose of a bibliography is to lend credence to what the author says. However, a reference should not be given merely to prove that the author is not lying (11). A bibliography gives readers additional sources to look at. A reader who wants more information on a subject can look at the author's references and the reference authors' references and so on. Proper documentation gives readers not only the author's data and/or views, but also saves readers numerous hours of searching in the literature if he is interested in pursuing a subject further.

There are numerous formats of biographical presentation. Most journals require a specific format, therefore an author should conform to the format stipulated by the journal to which he plans to submit his article. Generally the "guide to contributors" section gives style information required by that journal; if not, any article within the journal can serve as a guideline.

ADDITIONAL HELPS

Even though the article has been organized and the first draft written, the author still has much to do. Making a manuscript flow clearly, logically, and economically from beginning to end is real work. All too often the reader wanders from one sentence to the next, wondering where the author is taking him (4). The author "... must revise and continue to revise until he has a clear lucid and accurate account of his message (8). DeBakey (6) quoted an editor as advising, "Write and rewrite; rewrite again and then revise." It is also helpful to have others critically read the article a time or two during the rewriting phase. Even if a person is not familiar with the subject matter of the article, he can evaluate the organization, sentence structure, phraseology, grammar, clarity, etc. Often after struggling to get his ideas on paper an author will not be able to see flaws and weak areas that are obvious to someone else.

For those authors and potential authors who desire more detailed information about preparing manuscripts, there are numerous books and articles available. Woodford (18) had edited a manual on the teaching of scientific writing. O'Connor and Woodford (14) have written a text about scientific writing. Both

works present a step by step approach to preparing manuscripts. King and Roland (13) compiled a series of short articles dealing with items of grammar and style for journal authors. Subjects in their book include: monotony, the passive voice, verbs, verbals, bloopers, rewriting, etc. A very detailed article by Booth (3) has particularly good sections on both form and style (i.e., literary style, choice of words, tense, mood, voice, etc.), as well as an excellent annotated bibliography. Although it is over 20 years old, DeBakey's (6) paper on preparation of medical papers should be read by every potential author.

An understanding of the editorial review process will also help potential authors to prepare their articles for publication. *Athletic Training's* review process was discussed by Journal Editor Clint Thompson Spring, 1976 issue of *Athletic Training*(17). Included in the article was a copy of the evaluation form used by members of the editorial board in evaluating articles (Figure 3).

SUMMARY

Successful medical and scientific writing requires thought and organization. Before an author begins to draft his manuscript, he must organize and outline his thoughts and ideas, as well as the results of a systematic literature search on the subject. The paper must include an introduction, a body, and a summary or conclusions. The specific format of these sections depends on the type of article being written. After the first draft is on paper, extensive revision and rewriting must be done. Cox's (4) advice should be kept in mind while finishing the manuscript. She stated that an author should take readers ... by the hand verbally and lead them through the manuscript step by step ... Mystery stories are best left to fiction writers."

BIBLIOGRAPHY

1. Archer, J.D., "Attributes of a rejected manuscript," *JAMA*, 232:165, 1975.
2. Beatty, W.K., "Searching the literature comes before writing the literature, how clinicians can use printed bibliographies, tapes, and computers," *Ann. Int. Med.*, 79:917-924, 1973.
3. Booth, V., "Writing a scientific paper," *Biochem. Soc. Trans.*, 3:1-26, 1975.

4. Cox, B.G., "Writing for each other," *So. Med. J.*, 67:853-854, 1974.
5. Cross, L.M., *The Preparation of Medical Literature*, Philadelphia: J.B. Lippincott Co.
6. DeBakey, S., "Suggestions on preparation of medical papers," *JAMA*, 155:1573-77, 1954.
7. DeBakey, S., "Some types of medical papers: with suggestions on their preparation," *So. Med. J.*, 52:1530-35, 1959.
8. DeBakey, S., "Mediums of medical communication," *J. Albert Einstein Med. Ctr.*, 8:238-241, 1960.
9. DeBakey, S., and L. DeBakey, "The military physician and medical writing," *Military Med.*, 129:522-525, 1964.
10. Duke, M., "The well written case report, an asset to the medical literature," *Conn. Med.*, 38:169, 1975.
11. Editorial, "Review Articles," *So. African Med. J.*, 48:936, 1974.
12. Fishbein, M., *Medical Writing, the Technique and the Art*, 4th ed., Springfield, Ill.: Charles C. Thomas, 6-18, 1972.
13. King, L.S., and C.G. Roland, *Scientific Writing*, United States of America: American Medical Association, pp133, 1968.
14. O'Connor, M., and F.D. Woodford, *Writing Scientific Papers in English*, Amsterdam: Associated Scientific Publishers, 1975.
15. Riley, H.D., Jr., "Preparing a case report," *So. Med. Jr.*, 68:79-80, 1975.
16. Shidle, N.G., *The Art of Successful Communication*, New York: McGraw-Hill Book Co., 243-251, 1965.
17. Thompson, C., "The editorial board," *Athletic Training*, 11:58-59, 1976.
18. Woodford, E.P., ed., *Scientific Writing for Graduate Students, a Manual on the Teaching of Scientific Writing*, New York: Rockefeller Univ. Press, pp190, 1968.



THE HEAVY FAVORITE

Whether your team members need to gain weight, or just maintain their current weight, NUTRI-1000® Liquid is a delicious way to do it. It provides one calorie per cc. and balanced levels of protein, fat, carbohydrates, vitamins and minerals, blended for maximum efficiency by a company with years of experience in nutritional research and technology. Available in good-tasting chocolate or vanilla flavors, in 10-oz. ring-

peel or quart cans, NUTRI-1000 will fast become your team's favorite.

And, to help keep track of their weight, we're offering you poster-size weight charts. Each 30" x 40" chart has space for 40 team members to record their weight before and after daily workouts for a month. Just return the coupon for your chart.

SYNTEX
SYNTEX LABORATORIES, INC.
PALO ALTO, CALIFORNIA 94304

Clip and send to Bob Cook, Syntex Laboratories, Nutritional Products Division, 3401 Hill View Ave., Palo Alto, California 94304.

- Please send a weight chart.
 Please send samples of NUTRI-1000® Liquid.
 vanilla individual 10-oz. cans
 chocolate quart cans

Name _____
 Organization _____
 Address _____
 City _____ State _____ Zip _____

CURRENT LITERATURE

by Ed Christman, A.T.,C.
College of William and Mary

- "Alcohol and the Athlete," Leyshon, G. *Scholastic Coach*, 50 West 44th Street, New York, New York, 10036. 45:84, April, 1976.
- "Anabolic Steroids in Athletics (or the rise of the mediocrity)," Payne, A. *British Journal of Sports Medicine*, Tavistock Square, London WC1 H9 JR, England. 9(2):102-10, July, 1975.
- "An Exercise Prescription for Mountain Climbing," O'Shea, P. *The Physician and Sportsmedicine*, 4015 West 65th Street, Minneapolis, Minnesota 55435. 4:38, May, 1976.
- "Are Athletes Wrong About Anabolic Steroids?" Hervey, G. *British Journal of Sports Medicine*. 9(2):74-7, July, 1975.
- "Arthroscopie Proves to be More Than Diagnostic Tool," Casscells, S. *The Physician and Sportsmedicine*. 4:64, May, 1976.
- "Athletic Training 5 Day Plan," Albohm, M. *Woman Coach*, P.O. Box 867, Wallingford, Conn. 06492. 2:12, May-June, 1976.
- "Carbohydrates for the Influencing of Efficiency in Sport Medicine," Keul, L. *Nutrition and Metabolism*, S. Karger AG, Arnold-Boecklinstr 25, Basel, Switzerland. 18 Suppl 1:157-70, 1975.
- "Carbohydrate Loading Doesn't Work for Everyone," Sheehan, G. *The Physician and Sportsmedicine*. 4:35, May, 1976.
- "Complications May Arise in Seconds - or Months," Schmidek, H. *The Physician and Sportsmedicine*. 4:68, April, 1976.
- "Drug Abuse in International Athletics," Prokop, L. *Journal of Sports Medicine*, 428 East Preston Street, Baltimore, Maryland 21202. 3(2):85-7, March-April, 1975.
- "Eye Injuries in Canadian Hockey," Pashby, T. et al. *Journal of the American Medical Association*, 535 North Dearborn Street, Chicago, Illinois 60610. 113(7):663-6, 74 October 4, 1975.
- "Eye Injuries in Sport: with particular reference to squash rackets and badminton," Blonstein, J. *Practitioner*, 5 Bentinck St., London, W1M 5RN, England. 215(1286):208-9, August, 1975.
- "Flexibility Strexercises," Ishii, D.K. *Scholastic Coach*. 45:31, February, 1976.
- "Flexibility Through Warm-up Exercises," Quarterman, J. *Athletic Journal*, 1719 Howard Street, Evanston, Illinois 60202. 56:14, June, 1976.
- "Functional Rehabilitation of the Knee: A Preliminary Study," Yamamoto, S., Hartman, C., Feagin, J., and Kimball, G., *The Journal Of Sports Medicine*. 3:2888, November-December, 1975.
- "Investigation into Hamstring Strains: The Case of the Hybrid Muscle," Burkett, L. *The Journal of Sports Medicine*. 3:228, September-October, 1975.
- "Knee Stability and Knee Ligament Injuries," Kalenak, A. et al. *The Journal of the American Medical Association*. 234(11):1143-5, December 15, 1975.
- "Ligamentous Injuries Pose Major Diagnostic Problem" Marshall, J. *The Physician and Sportsmedicine*. 4:58, May, 1976.
- "Muscular Strength through Isotonic and Isokinetic Resistance Training," Pipes, T. and Wilmore, J. *Athletic Journal*. 56:42, June, 1976.
- "On-Field Diagnosis of Head Injuries," Ryan, A. *The Physician and Sportsmedicine*. 4:82, April, 1976.
- "On-the-Field Emergency Dental Care," Fair, J. and Cooper, D. *The Physician and Sportsmedicine*. 4:116, April, 1976.
- "Psycho-social Study of Outstanding Female Athletes," Balazs, E. *Research Quarterly of the AAHPPE*. 1201 16th Street N.W., Washington, D.C. 20036. 46(3):267-73, October, 1975.
- "Soft Tissue Injury in Sport," Burry, H. *Exercise and Sport Science Review*. 3:275-301, 1975.
- "Stress Fractures in Athletes," McBryde, A. *The Journal of Sports Medicine*, 3:212, September-October, 1975.
- "The Case for Working with Free Weights," Silvester, J. *Scholastic Coach*. 45:10, May, 1976.
- "The Double Bucket-Handle Tear of the Medial Meniscus," Andrews, J., Norwood, L., and Cross, M. *The Journal of Sports Medicine*. 3:232, September-October, 1975.
- "The Importance of Speed in Exercise," Counsilman, J. *Athletic Journal*. 56:72, May, 1976.
- "The Medical Hazards of Rugby Football," Walkden, L. *Practitioner*. 215(1286): 197-200, August, 1975.
- "The Psychological and Physiological Effect of Hydration on Male College Athletes," Johnson, D. *Journal of Sports Medicine and Physical Fitness*, Corso Bramante 83/85, Turin, Italy. 15(2):138-46, June, 1975.
- "Throwing Injuries of the Shoulder and Elbow in Adults," Kerlan, R. et al. *Current Practice in Orthopedic Surgery*, C.V. Mosby Co., 11830 Westline Industrial Drive, St. Lous, Mo. 63141. 6:41-48, 1975.●

Made by JOBST®
manufacturers of the
famous JOBST—JET®
Air Splints



New combination cold/pressure therapy for athletic injuries.

NEW Jobst® Cryo / Temp™ Therapy System

Now when athletic injuries occur you can dramatically speed recovery of your player, and significantly reduce his discomfort and pain with the Jobst Cryo/Temp Therapy System. Cold and pressure therapy has been shown to be the most effective method for treating fractures, contusions, sprains, muscle spasms, strains, edema, hemorrhage and associated athletic injuries. Jobst new Cryo/Temp Therapy System offers you immediate application of cold therapy with, or without, controlled intermittent or constant pressure. Jobst Cryo/Temp provides a continuous flow of coolant to hydraulic leg and arm appliances for instant cold therapy of the total injured area. Two extremity injuries may be treated simultaneously.

Jobst Cryo/Temp permits variable temperature control and monitoring from room temperature to 32°F (0°C). Constant pressure from 0 to 120 mm.Hg. may be applied and monitored, or intermittent pressure applied and monitored from 0 to 180 sec. on, 0 to 60 sec. off. Exclusive to Jobst Cryo/Temp Therapy System are the leg and arm appliances which encircle the extremity permitting complete therapy. The leg and arm appliances

may also be used to immobilize and splint fractures while continuing therapy. Once pressurized and cooled the leg or arm appliance can be disconnected from the control unit for transportation of the patient to the hospital. Leg and arm appliances are x-ray transparent and need not be removed until after the victim has been x-rayed and is ready for permanent splinting.

Now when athletic injuries occur, Jobst Cryo/Temp Therapy System will dramatically speed recovery of your player, and significantly reduce his discomfort and pain.



JOBST INSTITUTE, INC.

P.O. Box 653, Toledo, Ohio 43694 U.S.A.

© 1976 Jobst Institute, Inc.

I would like to know more about Jobst Cryo / Temp Therapy System. Please send complete information and prices.

Name _____

Business or Assn. _____

Address _____

City _____ State _____ Zip _____

L.F. 'Tow' Diehm, M. Kenneth Howard, Victor D. Recine, Gayle Robinson Named to Citizen's Savings Athletic Trainers Hall of Fame, 1976 Elections

Four esteemed athletic trainers — L.F. "TOW" Diehm, Albuquerque, New Mexico; M. KENNETH HOWARD, Auburn University, Alabama; VICTOR D. RECINE, Sayreville, New Jersey; and GAYLE ROBINSON, formerly Michigan State University, East Lansing — were today elected to the Citizens Savings Athletic Trainers Hall of Fame.

Diehm, Howard, Recine and Robinson will be presented with their Hall of Fame awards at the annual convention dinner of the National Athletic Trainers Association, at the Sheraton-Boston Hotel, in Boston, Massachusetts, on the evening of June 14.

The Hall of Fame nominations were made by the National Athletic Trainers Association Honor and Awards Committee, chaired by George Sullivan, University of Nebraska. The nominations were approved by the Citizens Savings Hall Board, composed of Jim Cour, Bud Furillo, Chuck Garrity, Fred Hessler, Allan Malamud, Allin Slate, Jack

Stevenson, Gil Stratton, W.R. Bill Schroeder, and Elwood A. Teague, chairman.

LORAIN F. 'TOW' DIEHM gained B.S. and M.S. degrees at Kansas State Teachers College, Pittsburg, Kansas. He began his athletic training career in 1948, having served at Santa Rosa, California, Junior College; Kansas State Teachers College, Michigan State University, and University of New Mexico.

MILFORD KENNETH HOWARD was graduated from Auburn University with a B.S. degree in 1948. He immediately thereafter embarked upon his athletic training career, first serving as assistant trainer, subsequently to become head trainer, a position which he still commands, and well. He was a member of the U.S. Olympic Committee's training staff in 1952, at Helsinki.

VICTOR D. RECINE attended the United States Navy Corp School and Physical Therapy School, having been licensed by the New Jersey State Medical Board as a Registered

Physical Therapist. He began his athletic training career in 1942, serving New Brunswick, New Jersey High School during the periods 1942-1943, and 1946-1962; and Sayreville High School, New Jersey, 1962-1973. During World War II, Recine saw service in the U.S. Navy, and served as trainer for the Sampson Naval Training Station Yellow Jackets. He was U.S. Pan-American Games Team trainer at Mexico City in 1975.

GAYLE B. ROBINSON was graduated from Michigan State with a B.S. degree in 1940. For five years, 1940-1945, he coached football, basketball and track and field at Michigan high schools, at Muskegon and Ravenna. He embarked upon his athletic training career in 1946, and became head trainer at Michigan State University in 1959, serving for many years thereafter. He trained Australian athletes in the Olympic Games of 1972, at Munich.

All of the 1976 Hall of Famers have been deeply involved in athletic training over a period of many years,

and all have participated in clinics throughout the U.S.A. and some in foreign lands — Robinson in Germany and Australia. Also, all have participated actively in National Athletic Trainers Association affairs, and all have been granted awards for noteworthy services rendered in the interest of athletic training at all levels. The credentials of all four of the Hall of Fame Athletic Trainers are most outstanding.

To date, there have been 85 distinguished Athletic Trainers who have been elected to the Citizens Savings Hall of Fame.

The Athletic Trainers Hall of Fame was created by the Athletic Foundation in 1962, as it was motivated by Eddie Wojecki of Rice University. Subsequently, Wojecki was elected to the Hall of Fame, in recognition of his athletic training achievements.

For some years past, Athletic Trainers Hall of Fame nominations have been determined by the National Athletic Trainers Association Honor and Awards Committee, long chaired by George Sullivan, University of Nebraska.

ATHLETIC TRAINERS HALL OF FAME, To Date:

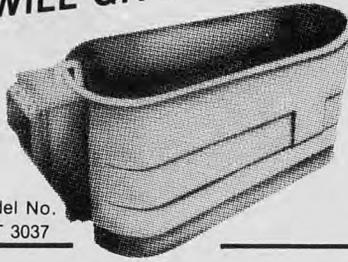
Joseph N. Abraham
Walter B. Bakke
Robert Bauman
Roland Bevan
Ernest Biggs
Samuel E. Bilik
Joseph Blankowitsch
Edward Block
William H.S. Bohm
Delmar Brown
Elmer Brown
David M. Bullock
Edward A. Byrne
Michael C. Chambers
Earl 'Click' Clark
Richard Kent Cole
E.J. 'Jay' Colville
Charles Cramer
Frank Cramer
Oliver J. De Victor
Arthur Dickinson
L.F. 'Tow' Diehm
Lilburn J. Dimmitt
Dwayne 'Spike' Dixon
Anthony Frank Dougal
Elvin 'Ducky' Drake
Carl Erickson
William J. Fallon
William R. Ferrell
Tad Gormley
Robert Henry Gunn
A.C. 'Whitey' Gwynne
Charles E. Harper
Jack Heppinstall

Relax-Aire
WHIRLPOOL BATHS

WILL GIVE YOU MORE FOR YOUR MONEY!

JUST COMPARE:
All Models Equipped With:

- AUTOMATIC TIMERS
- VARIABLE PRESSURE CONTROLS
- HIGH PERFORMANCE POWER UNITS with PERMANENTLY SEALED BEARINGS.



Model No. RPT 3037

Relax-Aire HAS A WHIRLPOOL BATH TO SUIT YOUR NEEDS AND YOUR BUDGET!

Select from 4 MODELS priced \$99.95 to \$495.00



"The WHIRLPOOL BATH is our BUSINESS, our ONLY Business!"
ANACO, INC. 329 Curtis Avenue • Ironton, MN. 56455
Phone: 218/546-5111

M. Kenneth Howard
James Edward Hunt
James H. Johnston
Carl Jorgensen
C. Rodney Kimball
Lincoln Tamotsu Kimura
Wesley I. Knight
Samuel Randall Lankford
James W. Littlejohn
William F. Linskey
Roland Logan
Werner J. Luchsinger
Thomas F. Lutz
Frank H. Mann
Larnard 'Lon' Mann
Frank E. Medina
Charles E. Medlar
Ross Moore
Laurence Morgan
James H. Morris
Michael Murphy
William E. Newell
Einar Nielson
George 'Doc' Nelson
Dean B. Nesmith
Mickey O'Brien
Herbert Patchin
Erastus W. Pennock
Kenneth Rawlinson
Victor D. Recine
Jules Reichel
Naseby Rhinehart
Wayne Rideout
William B. Robertson

Gayle Robinson
Wayne Rudy
Michael Ryan
Allan Schmidt
Claude 'Big Monk' Simons
Lloyd 'Snapper' Stein
Edward A. Sulkowski
Dr. Charles W. Turner
Howard E. Waite
Stanley M. Wallace
Frank Wandle
Richard A. Wargo
Stephen W. Witkowski
Eddie Wojecki
Alfred 'Duke' Wyre
Edward G. Zanfrini

Citizens Savings Athletic Foundation, formerly Helms Athletic Foundation, was instituted on October 15, 1936. It has now enjoyed 40 years of continued operation.

The Athletic Foundation not only maintains Halls of Fame in as many as twenty-six sports categories, but it maintains one of the most complete sports libraries in existence. The Athletic Foundation's sports museum, located at 9800 South Sepulveda, Los Angeles, open to the public without charge, is both spacious and sparkling. A countless number of prized trophies and awards are lodged there. ●

N.A.I.R.S. QUESTION CORNER

An attempt will be made through *Athletic Training* to make injury record gathering and the statistical analysis capabilities of the National Athletic Injury Illness Reporting System (NAIRS) available to those athletic trainers, team physicians and other professionals who are interested in advancing progress in injury control.

A question-answer format will be used with questions concerning such topics as injury frequency per sport, injury type per sport, injury type by position, and influence of equipment and playing surfaces on injury type and frequency being submitted to *Athletic Training*. Jenison Fieldhouse, Michigan State University, East Lansing, Michigan 48824. As many pertinent questions as possible will be forwarded to NAIRS headquarters for examination. Answers forthcoming from NAIRS will appear in the quarterly issues of this Journal.

An example of the results of NAIRS capabilities can be seen in the Spring, 1976 issue of *Athletic Training* in an article entitled "Injury Patterns During the First Three Days of Football Practice Among Big Ten Schools." NAIRS capabilities are directly a product of not only the NAIRS staff but particularly of those trainers contributing their time and efforts in recording the necessary injury data and forwarding that data to NAIRS. Those untiring efforts are paying off as the data is collected and stored in the computer ready to be retrieved for those who have questions concerning the different aspects of injury control.

With the work of those faithful and patient trainers in the beginning NAIRS has grown to the point where the answers to such questions as appear below can be accurately and effectively retrieved.

Question

What position in football experiences the most ankle injuries?

Answer

The distribution of significant, all but minor, ankle injuries of 42 college teams during games and practices for the 1975 season was as follows for 90 reported injuries:

Defensive linemen	24.4%
Running backs	21.1%
Offensive linemen	17.8%
Defensive secondary	16.7%
Linebackers	7.8%
Wide receivers	4.4%
Tight ends	4.4%
Quarterbacks	3.3%

These figures do not include kicking units and are not adjusted by the number of players within a position.

Question

Does preventative ankle taping of basketball players help prevent ankle sprains?

Answer

Statistics compiled from 21 college teams, including 529 games and 1818 practices during the 1975-76 season, indicate that of those ankle injuries reported, the highest percentage of all types of sprains (minor, less than one week disability; moderate, one to three weeks disability; major, more than three weeks disability;) occurred to players who were not taped. The distribution of the 76 reported sprains was as follows:

Taped ankles	22.4%
Wrapped ankles	26.3%
Neither taped nor wrapped	51.3%

In terms of injured ankles the application of tape reduced the severity of a given ankle injury as indicated by the fact that there were only 2 moderate and no major sprains to taped ankles while those ankles that were neither taped nor wrapped suffered 10 moderate and 5 major injuries.

Trainers and/or institutions, whether high school, college or professional, are invited to become a part of the NAIRS data collecting process. The process can be initiated by contacting NAIRS, Pennsylvania State University, Sports Research Building, University Park, PA 16802, for further information about becoming a part of the data collecting process. ●

**This
Publication
is Available in
MICROFORM**



...from

**Xerox
University
Microfilms**

300 North Zeeb Rd.,
Ann Arbor, Mich. 48106
(313) 761-4700

PLEASE WRITE
FOR COMPLETE
INFORMATION

ICE*MATES



*Ice Compression Elevation products from PPI. Ideal go-togethers to provide first aid treatment/therapy on the field. No mess. Just great ICEMATES like hospital-proven ACE bandages; PEG (pressure elastic grip) the self-adhering bandage; and cold packs for immediate treatment of sprains, strains and contusions. PPI ICEMATES — to help protect your team.

ACE, PEG, PPI and B-D are trademarks of Becton, Dickinson and Company.



B-D PROTECTIVE PRODUCTS
Division of Becton, Dickinson and Company
P.O. Box 291—1913 E. Pine
Grand Prairie, Texas 75050
(214) 264-9311

TIPS FROM THE FIELD:

by Rod Compton, M.Ed., A.T.,C.
Head Athletic Trainer
East Carolina University
Editor-in-Chief
N.A.T.A. Journal

Customized Pads Made Easy

Making uniquely shaped pads for various athletic afflictions can be time consuming. Also, the "look and cut" method may be quite accurate for the experienced trainer, but a mystery for the inexperienced trainer.

An extremely easy method of creating a precisely shaped pad requires only a felt-tipped pen, a piece of felt or rubber, spray tape adhesive, scissors and a little common sense.

First, draw the shape of the pad on the skin (Figure 1), using a good broad, dark line. Next, having your oversized piece of felt handy, spray the outline rather heavily with the tape adherent (Figure 2).

Immediately press the felt firmly over the outline and hold for about five seconds (Figure 3). Next, slowly peel the felt off to reveal the transferred pattern on the felt (Figure 4).

Now all that must be done is to cut along the outline form, trim the pad, and fit it to the proper area (Figures 5-7). •

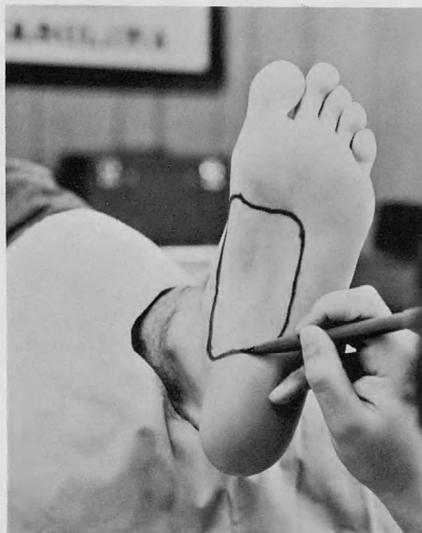


Figure 1

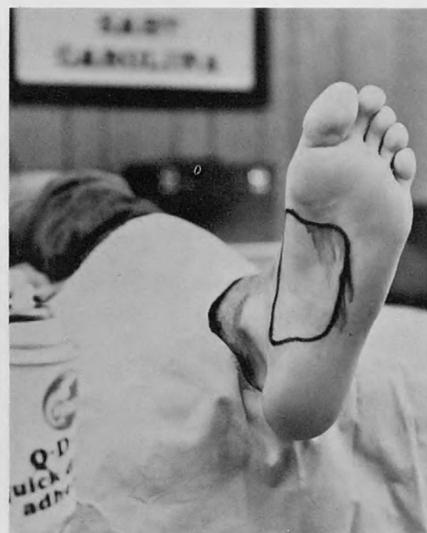


Figure 2



Figure 3



Figure 4

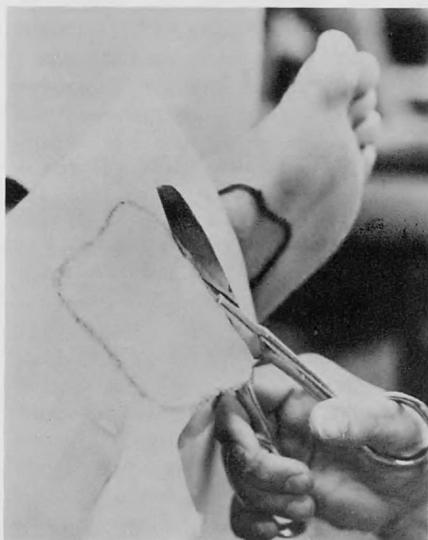


Figure 5

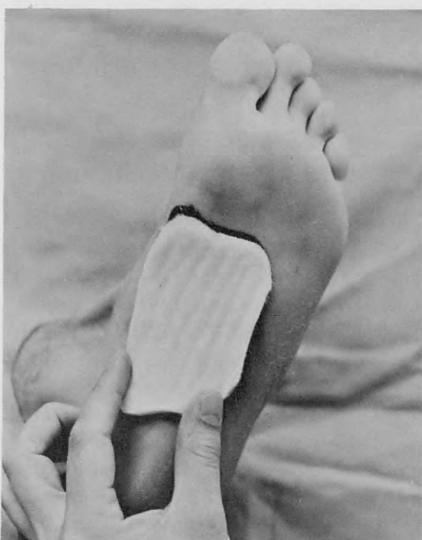


Figure 6



Figure 7

Photos by John Banks



Survival of the fittest

Even when you're winning, you take a little beating. That goes for athletes as well as equipment.

J-Pad Protective Padding takes the hard knocks out of the long, grueling season ... game after game, practice after practice ... giving your men the protection they deserve. J-Pad absorbs the shock, softens the blow and spreads the impact over a wide area. They resist abrasion and stand up to wet weather and repeated laundering better than any other protective pad on the market. And you can be sure they'll be back to protect your players the following year. That's value!

Protection, durability and the economy of long-term survival make J-Pad Protective Padding the natural selection for your team.



 **PAD** *Protective Padding.*
TRADEMARK

For additional details and proof of J-Pad performance, write:

Johnson & Johnson New Brunswick, N.J. 08903 © Johnson & Johnson

ABSTRACTS

Fehr, Kevin A., Kalant, Harold, and LeBlanc, A. Eugene, "Residual Learning Deficit After Heavy Exposure to Cannabis or Alcohol in Rats," *Science*, Vol. 192 Number 4245, June, 1976, pp. 1249-1251.

It has long been recognized that chronic heavy use of alcohol may give rise to an organic brain syndrome characterized by slowing and interruption of mental processes, difficulty with abstract thought, and impairment of memory and learning ability. Many clinical reports from India, North Africa, and elsewhere have referred to a similar "dementia" in long term heavy users of hashish. Clinical descriptions of a similar state have recently appeared in North American and European literature, ranging from moderate impairment of verbal learning and recall to a full clinical picture which in some cases was thought to indicate brain damage. An ethanolic extract of preassayed marijuana leaf material was heated to convert the tetrahydrocannabinolic acid to tetrahydrocannabinol (THC). The THC content of the extract was assayed by gas-liquid chromatography and the appropriate dose was then dissolved in 0.2ml of olive oil for administration to the rats. For the acute experiment, 18 animals were reduced to 80 per cent of their feeding weight, and pretrained in the Rabinovitch-Rosvold modification of the Hebb-Williams closed field maze. Pretrained rats were tested on a series of 12 problems arranged in order of increasing difficulty. The score of each animal was the total number of errors on eight trails on each problem. The marijuana treated rats committed an average of 87.6 ± 9.0 errors on problems 5 to 12. The mean control score was 68.2 ± 4.8 . The difference was significant on a one tailed t-test ($P < 0.05$). After seven days the treated animals became irritable shortly after treatment. The exhibited backward circling and licking behavior, and shrieked whenever handled. During testing they showed little interest in the problems, and moved very slowly. When they finally reached the food box, however, they ate avidly. In view of the long half-life and high lipod solubility of THC, the apparent absence of tolerance in the maze tests might conceivably reflect drug accumulation in the body on the dosage schedule used. The ethanol animals

were intubated daily with a 25 per cent solution of ethanol in water. The ethanol group performed significantly worse than the controls on two criteria and the marijuana extract group showed significant impairment in the error score and marginal impairment in runs-to-criterion score. Difficulties to human extrapolation are presented.

—John Wells

Ryan, A.J. "On-field Diagnosis of Head Injuries," *The Physician and Sportsmedicine*, 4:82-84, April 1976.

This article supplied a good general guideline to follow when evaluating a head injury on the field. You must be constantly aware of the actions of the players on the sidelines. A concussion is not always accompanied by unconsciousness, a player may simply display an unusual behavior when suffering from a mild concussion. An excellent source of feedback pertaining to a particular player's condition, is to ask his teammates if he has been acting strangely. When assessing a suspected head injury Dr. Ryan advocated this general procedure. Start by asking some questions which will indicate the player's orientation to time and place. A gross neurological examination consisting of pupil size, light accommodation, function of cranial nerves, and possible motor reaction of the extremities. A most important consideration in a concussion is headache. If a person suffers a concussion most generally in five to ten minutes it will be accompanied by a severe headache. Often the headache is so intense the athlete wants to be left alone and not get involved in any physical activity. The author stressed that a headache which becomes progressively more severe is an alarming sign and could indicate that other changes are taking place. The question of whether or not a player can return to action after he has been dazed is a matter of personal judgement. Dr. Ryan feels a player who has been dazed, but with no positive signs and no headache and after two or three minutes could be allowed to return to action. However it must be noted that a player who has suffered a concussion should not be allowed to return to practice or the game on that day. It is the policy of

the author that after the game if there is some question as to the status of the athlete, if the side effects of the concussion seem to be getting worse, or if he lives where no one will be able to keep an eye on him, it is advisable to put him in the infirmary or hospital. When a player wants to return to practice the decision is based on the persistence of headache. The persistence of headache indicates that whatever damage that has occurred to the brain has not completely corrected itself. A player is allowed to return to practice after the headache has subsided and there are no positive neurological signs.

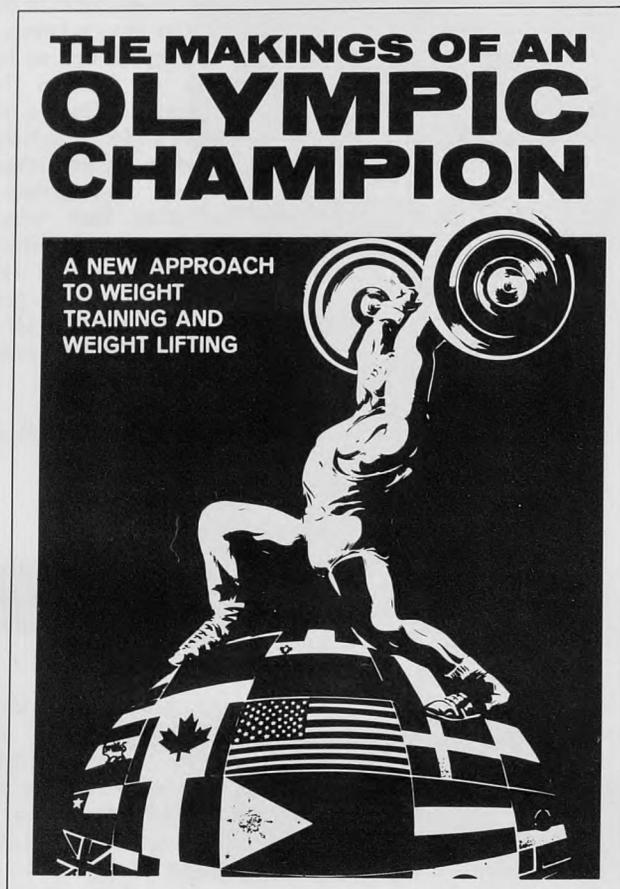
—William Musnicki

Horns, Richard N., M.D., "Blinding Hockey Injuries," *Minnesota Medicine*, Volume 59, Number 4, April 1976.

Forty-seven cases of eye injury due to ice hockey and one case due to school floor hockey were reported as researched by the Committee on Ophthalmology of the Minnesota State Medical Association. The most common mechanism of injury in these cases was a blow from the hockey stick (32), with puck impact falling second in number (12), though usually more severely damaging. The highest number of injuries reported occurred in the ten to twenty year-old age group, and though information regarding the occurrence of eye injury in organized school hockey was not requested, a number of these injuries were reported as taking place in school athletic programs. Seven of the reported cases resulted in legal blindness of the involved eye. Minnesota State Statute number 126.20 (Minnesota School Eye Safety Law) requires quality eye protective devices be worn when a student is in an area potentially hazardous to the eye, and it is the recommendation of the Committee on Ophthalmology of the Minnesota State Medical Association that persons playing hockey wear an eye protective device, and that anyone who is essentially monocular with marked reduction in one eye be strongly advised not to participate in hockey.

—Greg Vergamini •

Order Now For Christmas!!



THE MAKINGS OF AN OLYMPIC CHAMPION

*A new approach to weight training
and weight lifting*

*For every man, woman, boy or girl
interested in*

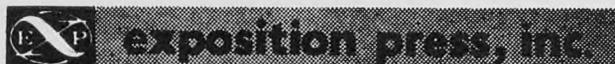
GOOD HEALTH AND SPORTS

**By Russell "Rusty" Wright
Doctor of Osteopathic Medicine**

JUST WHAT THE DOCTOR ORDERED IN PREVENTIVE MEDICINE

**FOR DOCTORS, TRAINERS, PHYS. ED. DIRECTORS, COACHES, PARENTS,
JUNIOR HIGH AND HIGH SCHOOL BOYS AND GIRLS**

ORDER FORM



900 SOUTH OYSTER BAY ROAD, HICKSVILLE, NEW YORK 11801

Please rush me _____ copies of *THE MAKINGS OF AN OLYMPIC CHAMPION*.
(Enclose \$10.00 plus .75 postage and handling for each copy ordered. Check or money order, please.)

Name _____

Address _____

City _____

State _____ Zip _____



In Memoriam



Gary Millay

GARY MILLAY, a son, a father, a student, a professional, an athlete, a competitor, a trainer, a therapist. Gary was a member of: National Athletic Trainers Association, A.P.T.A. (American Physical Therapy Association), Member of Peer Review of Foundation Community Health Plan, Board Member Rehabilitation Committee, Medical Care Foundation, Athletic Trainer, American River College, Treasurer, American Physical Therapy Association, Northern District. The list goes on and those of us who know him will continually add to it. He will live with us forever in not only the wisdom and courage that he has shared with us but the eternal sense of humor that we have enjoyed so often. Gary's students, athletes and patients know him as a professional who had a vital interest in their welfare. He had a unique quality of teaching and helping others using his mind and skills with endless enthusiasm. Gary's colleagues know him as a professional, active in his associations and never selfish with his energy towards improving his profession. Only time prevented him from reaching all of the goals that he had dreamed of. Those of us who have been fortunate enough to share his seriousness and deep thoughts along with his warm and fun loving humor, know the privilege of being his friend.

We thank God for giving us that opportunity.

Roger McGill

ROGER D. MCGILL, 48, Associate Athletic Trainer and Equipment Supervisor at the University of Pittsburgh died of a heart attack on November 15, 1975. Roger was a native of Pittsburgh, Pennsylvania, his association with the University goes back to 1946, both as a student and trainer. Graduating from Pitt in 1950, he joined the Faculty as an Assistant Trainer and received his Master's in Education in 1951. Roger received his certificate in Corrective and Adaptive Therapy in 1958. He was elected to the Office of President of the Eastern Athletic Trainers Association in 1963. Also in 1963 he joined the Pittsburgh Steeler Football Club Staff as Head Trainer, remaining with the Steelers until 1968 when he returned to Pitt as Associate Athletic Trainer and Equipment Supervisor. In addition to working with the University Athletic Teams and the Pittsburgh Steelers, Roger worked with the Pittsburgh Pirates, Golden Gloves Boxing and many of the professional basketball teams that played in Pittsburgh. In 1971 Roger toured the United States and South America as the trainer for the United States Pan-American Baseball Team. Roger was awarded the 25 Year Award by the N.A.T.A. in 1973, as well deserved recognition.

Roger was a great influence and advisor to many a young person now actively involved in athletic training. His radiant personality will be missed around the University of Pittsburgh and the N.A.T.A. We are all saddened by his death.

Morris Erickson

MORRIS ERICKSON, 34, Teacher-Trainer at Capital High School in Boise, Idaho, died of cerebral hemorrhage on November 26, 1975. He was suffering from a rare blood disease. He was an Associate member of the N.A.T.A. working toward certification. Morris became the Trainer at Capital High School in 1972. He received his B.S. in Secondary Education in 1966 and was pursuing his MA at Boise State University. He was a charter member of the Idaho Association of Sports Medicine, was active in the Boise Education Association, actively supported and participated in Education Programs for the High School Student Trainer. He is survived by his wife, Carolyn, and two sons, Brian, 6, and Michael, 4.

National Athletic Trainers Association Procedures for Certification

TO BECOME CERTIFIED AS AN ATHLETIC TRAINER BY THE NATIONAL ATHLETIC TRAINERS ASSOCIATION, AN INDIVIDUAL MUST MEET THE REQUIREMENTS IN ONE OF THE FOLLOWING SECTIONS I, II, III OR IV. QUALIFICATION IN MORE THAN ONE SECTION IS NOT REQUIRED.

SECTION I. STUDENTS WHO HAVE GRADUATED FROM AN APPROVED UNDERGRADUATE OR GRADUATE PROGRAM, who have met the following criteria:

1. Completion of the N.A.T.A. approved athletic training curriculum requirements, and proof of a Bachelor's degree from an accredited college or university.
2. Have spent a minimum of two (2) years under the direct supervision of N.A.T.A. approved supervisors.
3. Passed an examination which includes basic principles of athletic training.
4. Proof of one (1) year of continuous Associate or Student membership in N.A.T.A. immediately prior to application for certification.
5. Proof of certification in Standard First Aid and CPR (or equivalent).

A person who is once certified under these procedures remains certified as long as he or she meets the minimum requirements for continuing professional education as defined by the Professional Educational Committee as approved by the Board of Directors and only as long as such requirement is met.

SECTION II. APPRENTICESHIP - Students of Athletic Training may qualify for certification by:

1. On the job training (minimum 1800 hours) under direct supervision of a certified N.A.T.A. member.
2. Passed an examination which includes basic principles of athletic training.
3. Proof of a Bachelor's degree from an accredited college or university.
4. By presentation of a letter of recommendation by his N.A.T.A. immediate supervisor.

5. By presentation of a letter of recommendation by his acting team physician.
6. Proof of one (1) year of continuous Associate or Student membership in N.A.T.A. immediately prior to application for certification.
7. Proof of certification in Standard First Aid and CPR (or equivalent).

Athletic Trainers who are certified under the apprenticeship program remain certified as long as he or she meets the continuing education requirement as described under Section I and only as long as such requirement is met.

ONE SOURCE

for all
training
room
needs



School Health Supply has long been THE leader in training room furniture and train-aid supplies. Name brands and top quality furnishings at special school prices are as close as your mailbox.



**WRITE TODAY
FOR FREE COACH
AND TRAINER
CATALOG**

SCHOOL HEALTH SUPPLY CO.
300 Lombard • Addison, Illinois 60101

Please rush a copy of your
Coach & Trainer Catalog.

NAME _____

SCHOOL _____

ADDRESS _____

CITY _____

STATE _____

ZIP _____

SECTION III: SPECIAL CONSIDERATION - ATHLETIC TRAINERS ACTIVELY ENGAGED WITHIN THE PROFESSION - This section deals with athletic trainers actively engaged within the profession *but* not yet certified.

The N.A.T.A. definition of "actively engaged" is as follows:

A person who is on a salary basis (no fee) employed by an educational institution, professional athletic organization, or other bona fide athletic organization for the duration of the institution's school year or for the length of the athletic organization

season and who performs the duties of athletic trainer as a major responsibility of his employment; or whose responsibility is the teaching in an N.A.T.A. approved athletic training curriculum is actively engaged in athletic training.

A person may be granted certification by special consideration by:

1. Proof of five years of athletic training experience, beyond that as a student athletic trainer on an undergraduate level, provided that they would meet the minimum of *one* of the following requirements:*

- (a) graduate of an N.A.T.A. approved faculty-trainer educational program;
- (b) a minimum of one year apprenticeship (800 hours) directly under a certified athletic trainer; or
- (c) providing proof of essentially equivalent academic course work requirements to that of an N.A.T.A. approved curriculum graduate. (If this method is selected, the applicant must submit his/her academic transcripts a minimum of 12 months prior to the anticipated date of examination for evaluation and approval).
2. Passing an examination which includes the basic principles of athletic training.
3. Proof of graduate from an accredited four year college or university.
4. By presentation of a document of recommendation from an N.A.T.A. certified athletic trainer.
5. By presentation of a letter of recommendation by his acting team physician.
6. Proof of one (1) year of continuous Associate membership in N.A.T.A. immediately prior to application for certification.
7. Proof of certification in Standard First Aid and CPR (or equivalent).

Athletic trainers actively engaged in the profession certified under this section remain certified as long as he or she meets the minimum continuing education requirement as described under Section I and only as long as such requirement is met.

*Persons requesting an exemption from the specific requirements of any of the three possibilities under item one must apply for certification under this section prior to January 1, 1977 or request an exemption in writing from the Board of Certification prior to that date.

SECTION IV. PHYSICAL THERAPY DEGREE GRADUATE - Physical Therapy graduate may be awarded certification provided they meet the following requirements:

1. A minimum of two (2) years experience in athletic training, beyond that as a student athletic trainer on a secondary school level, under direct N.A.T.A. approved supervision.
2. Proof of a Bachelor's degree from an accredited college or university.
3. By the passing of a required examination which includes basic principles of athletic training.
4. By the presentation of a document of recommendation from an N.A.T.A. certified athletic trainer.
5. By presentation of a letter of recommendation by his acting team physician.
6. Proof of one (1) year of continuous Associate or Student membership in N.A.T.A. immediately prior to application for certification.
7. Proof of certification in Standard First Aid and CPR (or equivalent).

Athletic trainers certified under Section IV shall remain certified as long as he or she meets the continuing education requirement as described under Section I and only as long as such requirement is met.

For additional information contact:
N.A.T.A. Board of Certification
Post Office Box X13
Ann Arbor, Michigan 48107

Now, athletes can quench their thirst DURING the game with new Quench Gum!



Mueller

Mueller Chemical Company
P.O. Box 99
Prairie du Sac, Wis. 53578

Please rush my order of new Quench Gum. I am ordering the following:

100 pieces - \$ 3.99

200 pieces - \$ 7.49

400 pieces - \$13.89

Please add \$1.00 postage and handling charges per mail order.

Name _____

Address _____

School _____

City _____

State _____ Zip _____

Your athletes don't have to wait for halftime to quench their thirst. Mueller's Quench Gum can stop that thirst while they're in the game.

Chances are your athletes chew gum during games. Now you can supply them with a gum that does more than just taste good.

Quench Gum's long lasting tart lemon flavor stimulates salivary flow and cuts through cotton-mouth. Quench Gum also contains dextrose for energy and soluble potassium.

Quench Gum is available in containers of 100, 200 and 400 individually wrapped pieces.

PRO ORTHOPEDIC DEVICES

Quality Neoprene Rubber Sleeves
Designed and Patterned for the Athlete at work.

SUPER PRO SCISSORS

ASPI-RUB

Picture and Certificate Laminations

Sold and Shipped direct to You.

Prompt Delivery!

MOOSE DETTY

PRO

GERRY DETTY

P.O. Box 1
King of Prussia
PA 19406
(215) 265-3333

GUIDE TO CONTRIBUTIONS

Athletic Training, the Journal of the National Athletic Trainers Association, welcomes the submission of manuscripts which may be of interest to persons engaged in or concerned with the progress of the athletic training profession. The following recommendations are offered to those submitting manuscripts:

1. Eight copies of the manuscript should be forwarded to the editor and each page typewritten on one side of 8 1/2 x 11 inch plain paper, triple spaced with one inch margins.

2. Good quality color photography is acceptable for accompanying graphics as well as glossy black and white prints. Graphs, charts, or figures should be of good quality and clearly presented on white paper with black ink, in a form which will be legible if reduced for publication.

3. The list of references and citations should be in the following form: a) books: author, title, publisher with city and state of publication, year; b) articles: family names, initials and titles of all authors, title of article, journal title, with abbreviations accepted as per Index Medicus, volume, page year. Citations in the text of the manuscript will take the form of a number in parenthesis, (7), directly after the reference or name of author being cited,

indicating the number assigned to the citation in the bibliography.

4. It is the understanding of the editor of *Athletic Training* that manuscripts submitted will not have been either previously published nor simultaneously submitted to another journal. The author accepts responsibility for any major corrections of the manuscript as suggested by the editor.

5. It is requested that each submitting author include a brief biographical sketch and acceptable photograph of themselves. Please refrain from putting paper clips on any photograph.

6. For reprints, authors are authorized to reproduce their material for their own use or reprints can be reproduced at time of initial printing if the desired number of reprints is known.

7. Unused manuscripts will be returned, when accompanied by a stamped, self-addressed envelope.

Address all manuscripts to:

Clint Thompson
Department of Athletics
Michigan State University
East Lansing, Michigan 48824

MINUTES OF THE MEETINGS of the BOARD OF DIRECTORS

Thursday-Tuesday
June 10-15, 1976

Sheraton Boston Hotel
Boston, Massachusetts

The following reports were made and actions taken at the meetings of the Board of Directors, National Athletic Trainers Association, June 10-15, 1976, at the Sheraton Boston Hotel, Boston, Massachusetts.

The first session was called to order by Mr. Frank George, President, on Thursday evening, June 10, 1976, at 7:45 p.m. with the following present:

Mr. Frank George, President
Mr. Otho Davis, Executive Director
Mr. Richard Malacrea, District 2
Mr. Craig Llewellyn, District 3
Mr. William Flentje, District 5
Mr. Eddie Lane, District 6
Mr. Warren Lee, District 7
Mr. William Chambers, District 8
Mr. Tom Wall, District 9
Mr. John Anderson, District 10
Mr. Bruce Melin, Parliamentarian

Absent were: Mr. Wes Jordan, District 1, who was represented by Mr. Malacrea, and Mr. Robert White, District 4.

CALL TO ORDER:

Mr. George opened the meeting with prayer and then commented upon the important subjects to be discussed during the meeting, emphasizing the importance of discussion pertaining to certification and requirements pertaining to Code 2.

TREASURER'S REPORT:

Mr. Davis briefly commented upon the financial aspects and transactions pertaining to the report of the Treasurer as previously furnished to the Board members, following which a brief discussion ensued in relation to the increase in registration fee by a figure of five dollars. It was:

MOVED (by District 6, seconded by District 5 and carried) that the report of the Treasurer be accepted.

A brief discussion ensued relative to the proposal of Mr. Flentje concerning the requirement that no certification changes be made for at least two years. After brief indication that the Certification Committee, in its later to be presented report, might have something to say regarding this issue, it was:

MOVED (By Mr. Flentje, seconded and carried by a vote of 8-0) that further discussion of the matter be tabled until after later presentation of the Certification report.

STUDENT MEMBERSHIP:

Following the Board's perusal of this report, it was: MOVED (by District 8, seconded by District 5, and carried) to accept the recommendation to eliminate the high school membership and increase student dues from eight to ten dollars and that high school student members who are presently on the membership rolls as of January 1, 1976, will so remain.

MOVED (by District 10, seconded by District 2 and carried by a vote of 8-0) that under Code 4, Students, the last sentence in the first paragraph under qualifications for membership read: "He must be recommended by the trainer, referably an NATA certified or Associate Member, Coach or Team Physician under whom he is working."

A brief discussion also ensued as to the evidence for application date, with no definite action on this matter being taken at this point.

ELECTION OF VICE PRESIDENT:

Mr. William Flentje, having been nominated for the office of Vice President, and there being no further nominations, he was declared to be unanimously elected, provided he shave his beard, which he did.

APPOINTMENT OF EXECUTIVE DIRECTOR:

Mr. Otho Davis, by unanimous consent, was approved for re-appointment as Executive Director for the ensuing term.

AUDIO VISUAL AIDS:

Following brief discussion and consideration of this report, it was:

MOVED (by District 2, seconded by District 7, and carried) that the budget of this Committee in the amount of \$875.00 be approved with the stipulation that the material be mailed to Code 1 and 2 NATA members only.

DRUG EDUCATION:

Following brief discussion of this report and also the article in connection therewith as submitted to the Journal and procedure used for submission of articles to the Journal of the NATA and to other professional journals and there being no action necessitated herein by the Board, it was:

MOVED (by district 6, seconded by District 3, and carried) that the report of the Drug Education committee be accepted as information.

GRANTS AND SCHOLARSHIPS:

The recommendation of the Grants and Scholarships Committee having been previously approved by mail vote, it was:

MOVED (by District 6, seconded by District 9, and carried) that the report of the Committee be accepted.

HISTORY AND ARCHIVES:

Mr. Davis indicated that there had been no report received from this Committee and there was no action for the Board to take in relation to this matter.

HONOR AWARDS:

There being no additional report, it was: MOVED (by District 8, seconded by District 2, and carried) that the action previously taken by this Committee be approved.

INTERNATIONAL GAMES COMMITTEE:

A lengthy discussion ensued relative to selection methods, the continual practice of selecting the same individuals, the practice of submission of names of non-qualified people and the frustrations being encountered in relation to selections being handled on a fair and equitable basis to all concerned. After brief reports relative to some actions being taken to correct some of these inequities, the report as contained in the agenda booklet, by general consensus, was accepted for information.

JOURNAL COMMITTEE:

Attention was called to the prepared report and recommendations contained therein, following which it was:

MOVED (by District 5, seconded by District 8, and carried) that the report of the Committee and the four recommendations, namely that of four issues, a ten percent increase in rates, increased postage and a budget of \$10,800.00 be accepted.

MEMBERSHIP COMMITTEE:

Consideration was called to a review of Code 2, with it being emphasized by both Mr. George and Mr. Davis that the Code 2 people be college people. Following further brief discussions relative to qualifications in this category, the matter, by general consensus, was tabled from further consideration and discussion at this point pending further consideration by the two involved committees, namely, Membership and Certification and also possible by-law change consideration, with the understanding that this would again be presented before the Board at a subsequent session.

PLACEMENT COMMITTEE:

Attention was called to the report and the request for a five thousand dollar budget and further request for the furnishing of a credit card to the chairman. In order to gain additional information in relation to these requests from the Chairman of the Committee, further consideration of this report was postponed pending the arrival at the meeting of the committee chairman on the following day.

PUBLIC RELATIONS COMMITTEE:

The activities of Mr. Miller, head of Public Relations, during the past few months were described. It was further indicated that the report contained no actions to be taken by the Board, that, in essence, the report was merely informational because the budget had been approved at a previous board meeting.

CAREER INFORMATION AND SERVICES:

Attention was called to the previously submitted report and budget request, after which it was:

MOVED (by District 6, seconded by District 7, and carried) that the report and the proposed budget for this Committee be accepted.

Mr. Poindexter, in subsequently reporting on the activities of this Committee, called attention to the fact that a new firm was being sought relative to computerizing these services on a new system but that costs were presently too high to warrant the tackling of any new system at this time, especially in view of the fact that it had not been tried before.

A brief discussion ensued as to the present procedure relative to mailing of placement lists to all certified and associate members in the organization, with a motion being made by Mr. Flentje to the effect that the placement list be sent to all Code 1 and 2 members and with the President declaring the motion as having failed for lack of a second.

RESEARCH AND INJURY:

Attention was called to the proposed booth pertaining to this matter to be set up in the convention area, as well as the effect of the new letterhead of the Committee, following which it was:

MOVED (by district 8, seconded by District 5, and carried) that the report be accepted.

AMERICAN ACADEMY OF PEDIATRICS:

Attention was called to the previously furnished report and the progress being made relative to the publication of various items to date by Mr. Malacrea, he further suggesting that the NATA cooperative in relation to the new book to be published by the Academy. By general agreement, any further action on the items and recommendations contained in the report were postponed until a subsequent meeting.

AMERICAN CORRECTIVE THERAPY ASSOCIATION:

MOVED (by District 8, seconded by District 9, and carried) that Mr. T.L. Harrington be made NATA Liaison Representative to this organization.

LIAISON REPORT, AMERICAN ACADEMY OF PEDIATRICS

The Committee on the Pediatric Aspects of Physical Fitness, Recreation, and Sports of the American Association of Pediatrics met at Academy headquarters in Evanston, Illinois on April 30 - May 1. Committee members in attendance were:

Melvin L. Thornton, M.D., Chairman
San Antonio, Texas

Gloria D. Eng, M.D.	Thomas G. Flynn
Chevy Chase, Maryland	New Canaan, Connecticut
Thomas E. Shaffer, M.D.	Nathan J. Smith, M.D.
Columbus, Ohio	Seattle, Washington
John C. Tower, M.D.	William B. Strong, M.D.
Anchorage, Alaska	Augusta, Georgia

LIAISON

Lucille Burkett, A.A.H.P.E.R.
Dave Arnold, National Federation
Richard F. Malacrea, N.A.T.A.

GUESTS

Kenneth C. Clarke, NAIRS
Richard L. Hoover, Center for Sports Medicine, Northwestern University

Mr. Hoover and Mr. Clarke presented their respective programs to the Committee. Both reports were well received and the programs were felt to be of real value in the future of the delivery of good health care to the athlete. Mr. Hoover reported on the history and development of the Center for Sports Medicine and that the Cook County Board of Education has granted funds to support fifty teachers from the Chicago area, for the first summer program of the Center for Sports Medicine at Northwestern University. Mr. Clarke reported that, at the present time, N.A.I.R.S. could handle an additional fifty high schools if the Committee were able to encourage the funding, by each Chapter, for one high school in each state. It was the feeling of the Committee that the N.A.I.R.S. program was well conceived and effectively administered.

Dr. Shaffer reported on his liaison with N.A.T.A. and spoke of high regard for the level of training and capability of the athletic trainer. He highlighted the high standards required by the certification process. It was his hope that the athletic trainer would, in the future, be more closely affiliated with medicine and medical facilities during the didactic and clinical phases of his/her education. A brief discussion on certification of coaches in emergency care followed. Dr. Shaffer also reported on the maturity scales that he and the New York State Department of Interscholastic Athletics have developed. He reported that the most reliable indicator for males is the development of pubic hair.

Dave Arnold described the change in the rules on blocking and tackling regarding initial contact with the head. He went on to emphasize the positive work of the National Federation in this area and the film produced, to depict acceptable methods of blocking and tackling, for those coaches who had not been exposed to anything other than "butting" or "sticking".

I reported to the Committee on the need for athletic trainers to have a more solid legislative base from which to operate. The Committee was informed of the ad hoc committee that was formed to develop a piece of model legislation that could be adopted to meet the particular needs of individual states. The Committee was appraised of the importance of support of the medical community

when these pieces of legislation are brought before the various state houses. It was my feeling that the Committee had a very positive attitude toward that call for support and may be called upon to enlist aid at the Chapter (state) level.

A number of different drafts for statements from the Committee were presented with corrections, additions, and editing. (Copies enclosed.) One draft entitled "Emergency (On the Field) Treatment of Athletic Injuries" is intended to be a booklet or pamphlet to be distributed to all members of the Academy. It was conceived so that the physician who suddenly finds himself being thrust on the football field on Saturday afternoon has a "back pocket bible" to rely on when he receives the call on Friday evening. The draft has had several editorial comments and it was the Committee's strong desire that this be a joint undertaking with the N.A.T.A. Publication sponsorship was also discussed and the Committee would be interested in sources suggested by N.A.T.A., along with those which regularly support Academy publications.

After scanning the draft it was readily apparent, to me, that there would be several areas of editing, rewriting, and additional inclusion that would be helpful in making a more complete guide for the physician, who is a "rookie", in the area of immediate care of the injured athlete.

A series of articles appearing in the New York Times (copies enclosed) was discussed. There was a question as to the appropriateness of a response to the original article at this late date. The Committee felt that this article, as well as the follow-up articles were still a very viable issue and could be answered or commented upon as individual physicians at this time.

Dr. Flynn presented his model program for a Chapter of the Academy (copy enclosed) and recommended that this type of a program be rotated or given at various sites in the state so that a greater number of people may be reached. He also discussed the need to develop a Committee on Sports Medicine in each Chapter and the need to increase the role of the pediatrician in the care of the young athlete.

A short discussion followed the presentation of the draft entitled "The Juvenile Diabetic and Physical Fitness". There was some question on the advisability of recommending specialized camps as opposed to having the child learn to live in an unprotected environment, as is recommended in other statements of the Committee.

A spin-off of the booklet, that the Committee would like to jointly sponsor with the N.A.T.A., was the proposal to write a book on the guidelines for communities and schools in developing programs of health care for the athlete. A rough outline was drawn up and the feasibility will be investigated.

RECOMMENDATIONS

- (1) Continued liaison with the A.A.P. and the Committee on Physical Fitness, Recreation and Sports.
- (2) Seek chapter support, through the Committee, when entering enabling legislation for the athletic trainer at the state level.
- (3) Cooperation with the Committee on the booklet "Emergency (On the Field) Treatment of Athletic Injuries."

Richard F. Malacrea, P.T., A.T.C.

May 20, 1976

AMERICAN COLLEGE HEALTH ASSOCIATION:

Following indication that the report was of an informational nature only and there being no action necessary on the part of the Board, it was:

MOVED (by Distric 5, seconded by District 7, and carried) that the report be accepted.

REPORT ON A.C.H.A. MEETING

Denver, Colorado
April 27, 28, 29, and 30, 1976

The Fifty-Fourth Annual Meeting of the American College Health Association was held in Denver, Colorado, at the Denver-Hilton Hotel on April 27, 28, 29, and 30, 1976.

Richard B. Shaara, M.D., director of University Health Service, University of Florida, Gainesville, Florida, presided as chairman of the Athletic Medicine Section Meeting.

The attendance at each of the sessions was very good. Standing room only was the situation at all the talks. Attendance at the Athletic Medicine Section continues to grow and is one of the best attended of all the sections.

Judson E. Hair, M.D., director of Redfern Health Center, Clemson University, Clemson, South Carolina, discussed "Intangibles in Evaluating Athletic Inquiries." Dr. Hair stressed that no matter how many times the athlete comes in for a consultation you must always treat him as a severe case.

Donald Cooper, M.D., director of Student Hospital and Clinic, Oklahoma State University, Stillwater, Oklahoma, gave his usual outstanding paper. Dr. Cooper stressed in his talk that each person has dignity. Dr. Cooper suggested the say-it-back technique, . . . "is this what you are saying?"

Major P. Gladden, M.D., university physician, Athletics, Howard University, Washington, D.C., chairman-elect of the Athletic Medicine Section, served as program chairman. Many compliments were heard concerning the outstanding job that Dr. Gladden did in bringing together the program.

John D. Leidholt, M.D., Denver Orthopedic Clinic, Denver, Colorado, was the luncheon speaker. Dr. Leidholt gave a slide presentation and discussed "Follow-up of Ankle Injuries in the Professional Athlete."

Dr. Shaara complimented Roy Don Wilson, athletic trainer, University of Kentucky, for his outstanding contribution to the "Report of the Joint Commission on Competitive Safeguards and the Medical Aspects of Sports." Dr. Shaara was also excellent.

As always, the Athletic Medicine Section of the A.C.H.A. meeting was great. These people are very concerned with the athletic trainer and our situations. It is always a pleasure to visit with this group and to represent the NATA to the A.C.H.A.

James E. Dodson
NATA Representative to
the A.C.H.A.

AMERICAN COLLEGE OF SPORTS MEDICINE:

The report by Dr. Gary Delforge was presented to the Board in reference to the American College of Sports Medicine as follows:

May 19, 1976

TO: Board of Directors National Athletic Trainers Association
FROM: Gary Delforge
RE: Report of Representation at the American College of Sports Medicine Annual Past Liaison Activities with ACSM

For the past several years, the NATA has been represented at the ACSM Annual meeting. I have represented the NATA for the past seven years: 1970 in Albuquerque, New Mexico; 1971 in Toronto, Canada; 1972 in Philadelphia, Pennsylvania; 1973 in Seattle, Washington; 1974 in Knoxville, Tennessee; and 1975 in New Orleans, Louisiana; 1976 in Anaheim, California.

Developments During 1976 ACSM Meeting

Your NATA representative, along with Sayers "Bud" Miller who was also in attendance, discussed with Dr. Dave Costill, ACSM President for 1975-76, the future and involvement of the athletic trainer in the ACSM. Dr. Costill was very receptive to suggestions and ideas presented to him. Among those areas discussed were (1) increased involvement of Certified Athletic Trainers as program speakers, especially in those sessions and symposiums conducted by the Medical Section of the ACSM, (2) increased athletic trainer membership in the ACSM, and (3) eligibility of the Certified Athletic Trainer for advancement to Fellow in the ACSM. Some of the problems and barriers to increased involvement of the athletic trainer in ACSM activities were discussed. Follow-up communication between your NATA representative and Dr. Costill will further explore possible ways to encourage further involvement of the athletic trainer.

As per the request of Otho Davis, NATA Executive Director, the subject of state licensing of athletic trainers was discussed with Dr. Costill in an attempt to elicit support from the ACSM. Dr. Costill expressed his willingness to bring this matter before the ACSM Board of Trustees at such time that the NATA is ready to make a formal request for support. Follow-up communication will be conducted with Dr. Costill on this matter as plans for state licensing of athletic trainers develop further.

Clinical Program

Several excellent lectures and symposia of special interest to the athletic trainer and team physician were presented. These included sessions on stress fractures, injuries of the knee, the child athlete and recognition and treatment of common athletic injuries. As has been the case for the past several years, the ACSM has continued to expand its program to include topics dealing directly with the management of athletic injuries and illnesses. It was discouraging to note, however, that no athletic trainers were included as program speakers at the 1976 meeting. Your representative plans to communicate with Dr. Costill, ACSM President; Dr. Sam Fox, Vice-President Medical Section; and Dr. John Boyer, 1977 Program Chairman in an attempt to encourage inclusion of athletic trainers on the clinical program.

Attendance of NATA Members

Attendance of NATA members at the ACSM Annual Meeting continues to be relatively poor. Those observed to be in attendance included Bill Chambers, Fullerton Junior College; Sayers "Bud" Miller, Penn State; Robert Hand, California State Polytechnic College; and Bob Moore, San Diego State; and Dan Arnheim, California State, Long Beach.

Increased attendance of athletic trainers should be encouraged in an effort to influence the content of program offerings at the ACSM Annual Meeting.

ACSM Membership Committee Appointment

For the past three academic years, your liaison representative has served as a member of the ACSM Membership Committee with the specific responsibility of recruitment of athletic trainers for ACSM membership. Appointment to this committee has been extended for a fourth year.

Arrangements were made for display of the ACSM "mini-exhibit" at the 1975 NATA meeting in Anaheim. This exhibit, developed by the ACSM Membership Committee, is specifically for the purpose of membership recruitment. Several personal invitations to join the ACSM were extended to athletic trainers during the 1975-76 academic year. Despite these efforts, response to recruitment efforts among athletic trainers has been relatively slow.

Justification for Continuation of Liaison Representation to ACSM

In my opinion, continued liaison representation to the ACSM is desirable. After review of my justification report of May 6, 1975, I find that this report remains valid (see attached copy). In addition, I would add that future support from influential groups such as the ACSM may become increasingly important in view of the many developments in the professional growth of athletic training (ie, licensing, etc.) NATA representation, I believe, is a justifiable investment if for this reason alone.

It is my definite opinion that NATA liaison with the ACSM should continue with a single NATA representative who can attend the annual meeting on a continual basis. This opinion is based primarily on the fact that most ACSM offices are rotated each year and that, because of these yearly changes, it would be most difficult for a rotating NATA representative to establish on-going meaningful communication with ACSM offices. It is very difficult even with a continuing NATA representative. Effecting change in the ACSM internal organizational structure and the clinical program to enhance involvement of the athletic trainer can best be accomplished by a continuing NATA representative over a reasonable period of time.

Should I personally continue as NATA representative I hope to exert some influence through my continued membership on the ACSM Membership Committee. I should also note that Dr. Jack Wilmore a member of the ACSM Board of Trustees and a long-time influential member of the ACSM has recently been appointed Head of the Department of Physical Education at the University of Arizona. I am optimistic about the possibility that my future close professional relationship with Dr. Wilmore can be utilized to further enhance NATA liaison and communication with the ACSM.

LIAISON REPORT ON THE AMERICAN CORRECTIVE THERAPY ASSOCIATION May 1, 1976

The American Corrective Therapy Association will be holding its national convention July 12-16 at St. Petersburg Beach Florida. Listed in their tentative program is a presentation by E. Larry Harrington, A.T.C. & C.C.T., entitled "Athletic Training in Corrective Therapy." Because of high travel expense it is recommended to the N.A.T.A. Board to contact Mr. Harrington and that he be asked to represent the N.A.T.A. at the American Corrective Therapy Convention in July.

There is a tremendous amount of rehabilitation work done in athletic training, and because it is exercise oriented, I recommend to the N.A.T.A. Board that we should continue our Liaison representative and our relationship with the American Corrective Therapy Association. The A.C.T.A. Training available at V.A. hospitals enables trainers to obtain good basic rehabilitation experience that can be a major factor in their effectiveness as an athletic trainer.

Respectfully submitted,

Jeff Fair, A.T.C., C.C.T.
Oklahoma State University

REPORT ON THE TWENTY-EIGHTH ANNUAL CONFERENCE OF THE AMERICAN CORRECTIVE THERAPY ASSOCIATION July 19-25, 1975

The American Corrective Therapy Conference was opened with a keynote-luncheon address that was given by David Ser, President of the A.C.T.A., 1962-63, and Kirk Hodges, A.C.T.A. President Elect. At 1:00 p.m., the Corrective Therapy Certification Exam was administered at the V.A. Research Hospital in Chicago.

I will not draw out this report by discussing each presentation on the conference agenda. I will comment only on those which I feel are of particular interest. During the morning session on July 22, Carl Eichstaedt, P.H.D., C.C.T., Assistant Professor of H.P.E.R., Illinois State University, presented a multi-media presentation (slides, super 8 film, taped music and oratory) on the Adaptive Physical Education Program at Deerfield High School, Deerfield, Illinois. Dr. Eichstaedt stated that adaptive physical education and corrective therapy are the same and differ only in their setting. He suggested that adaptive physical education should be a non-graded program, which is success oriented, safe, individualized (small class size) and diversified; thereby allowing for many different interests. The multi-media presentation was entertaining, informative, and was emotionally moving; all of which made it an excellent public relations tool. This was the first time I have had the opportunity to watch the multi-media concept. It was very impressive.

In the afternoon session, I replaced Richard A. Silver, M.D., who was to discuss corrective therapy as it relates to sportsmedicine. I spoke on "Corrective Therapy and Athletic Training," in which discussion I went through an average day in the training room and pointed out where my corrective therapy training has helped me. Although I stressed some of the similarities between athletic training and corrective therapy, I also stressed the importance of in-service training.

Later that afternoon, a Kent State University classmate of mine, Cheryl Gooding, C.C.T., presented a paper on "Rehabilitation of Total Hip Replacement." She demonstrated an appliance which prevents adduction and decubitus ulcers in patients confined to their beds.

Roger Pesch, M.D., gave an informative talk on the "Stages of Mental Adaptation to Severe Injury." Although the stages are not as pronounced as in a debilitating injury, I feel these stages could relate to the injured athlete: especially those who must undergo surgery. In the first stages, the patient is disoriented and unable to believe he has been injured. He is in a stage of fear and shock. In the second stage the patient, during the process of assessing the situation, develops anger, depression and realization of his loss. Dr. Pesch stated that the patient must realize and mourn his loss so that he can successfully begin his rehabilitation. The third stage is when the patient is ready to rejoin the community, continue his rehabilitation and return to the activities he is capable of performing.

Paul E. Conte, C.C.T., gave a demonstration of the aquatic wheel using educable mentally retarded high school students. The wheel was constructed of aluminum conduit and consisted of two circles held together by four arms radiating from a volleyball standard with an extra large base to keep it from tipping into the water. Swimming pool floats were used to keep the circular conduit afloat. Besides being very effective with the children, this wheel could be used for ambulation training and range-of-motion work for post-operative athletes.

A letter written by Frank George which expressed greetings and the hope that the N.A.T.A. would continue its relationship with the American Corrective Therapy Association was delivered to Mr. Hodges, A.C.T.A. President Elect. Mr. Hodges requested that I relay the A.C.T.A.'s desire to continue the good working relationship established with the N.A.T.A.

Respectfully Submitted,

Jeff Fair
Certified Athletic Trainer

AMERICAN PHYSICAL THERAPY ASSOCIATION:

Discussion ensued relative to the further encroachment of physical therapists, assistants and associates pertaining to the furnishing of various modalities now under the general supervision of the doctor, with possible medical litigation that could result therefrom, following which it was:

MOVED (by District 10, seconded by District 7, and carried) that the report be accepted.

Subject: APTA Liaison Report - June 26, 1975

From: Frank George, NATA Liaison Representative

This year the American Physical Therapy Association's annual meeting was at the Disneyland Hotel, Anaheim, California - June 14-20, 1975. The Sportsmedicine Section of the APTA met on June 14, at 8:00 A.M. This was a business meeting only and there were about thirty members present. Four of those present were women, and one objective of the section has been to get more women involved. Elections were held and Ron Peyton, an NATA member was reelected as chairman of the section. The other officers elected were:

Vice Chairman	Clem Eischen
Secretary	Keith Klemson
Treasurer	Trudy Lamb
Nominating Committee	Bob Moore - also NATA member

I was asked again to speak on NATA certification and how therapists would qualify to take the certification examination. I did distribute some copies of the NATA Certification procedures to those who were interested. Also was asked to comment on the need for female athletic trainers and the duties for which they would be responsible.

Bob Moore, who was elected to the nominating committee of this section and is also a member of the editorial board of *Athletic Training*, spoke on the quality and excellence of *Athletic Training*. He suggested to the members of this section, which numbers close to five hundred, that they should subscribe to this journal.

The next meeting of the Sports Medicine Section of the APTA will be in Washington, D.C. on February 6-8, 1976. This meeting will be a seminar on Exercise Physiology and will be co-sponsored by the President's Council on Physical Fitness.

The clinical sessions of the APTA meeting began on June 16, 1976. Two NATA members were speakers on this program, Larry Standifer, University of Oregon - "Rehabilitation of the Knee: Post Injury and Post Operative," and Frank George - Management of Muscle and Soft Tissue Injuries". I found a great deal of interest among students who would like to do one of their clinical affiliations in a training room. The House of Delegates of the APTA passed a resolution to begin the process of developing certification procedures for specialties in physical therapy. This is in its beginning stages and as it progresses, I will report on this in my liaison report. Ron Peyton, the Director of the Sports Medicine Education Institute will hold his first course in Atlanta, Georgia - July 28 - August 1, 1975. The Title of the course is "Sports Medicine Physical Therapy I, Basic."

ADDITION TO THE 1976 APTA LIAISON REPORT

The following report on APTA Specialization was in the APTA May, 1976 Progress Report:

"Task Force Studies Specialization"

The newly formed Task Force on Clinical Specialization met in late February in Washington. All of APTA's sections requesting participation are represented in the group.

Reviewing its charges from the House and the Board, the 12-member task force worked under the assumption that specialties are to be developed for physical therapy. Some questions were raised, however, if APTA members would really want specialties if all facts were known. Several of the section representatives stated their section membership was opposed to PT specialties.

Richard P. Penna, Secretary of the American Pharmaceutical Association, spoke to the group on the trials, tribulations, pitfalls, and problems encountered by his association in its recent attempt to identify specialties in pharmacy.

During its two-day meeting the task force reviewed models from other associations and established a model for specialization for physical therapy. The proposed areas of specialization identified were musculoskeletal, neuromuscular, and cardiopulmonary.

The group developed a timetable for completion of its work which will include the preparation of a document to accompany its model.

Robert Bartlett, APTA vice president, chaired the meeting. Other members attending, and the sections they represented, were Jack Hofkosh (Administration), Scot Irwin (Cardiopulmonary), Carolyn Erickson (Education), Roger Nelson (SEEM), Stanley Paris (Orthopaedics), Carolyn Heriza (Pediatrics), Ann McColley (Private Practice), Pamela Catlin (Research), Ronald Peyton (Sports Medicine), and Nancy Thompson (State Licensure and Regulation). Sandy Burkatt attended as an alternate for the Orthopaedic section. George Soper is member-at-large of the task force, and Robert Teekemeyer is staff liaison for the group.

JOINT COMMISSION ON COMPETITIVE SAFEGUARDS AND MEDICAL ASPECTS OF SPORTS:

Brief comments ensued relative to the meeting of

this group in relation to the meeting of the NATA and there being nothing for immediate action of the Board at this time, it was:

MOVED (by District 2, seconded by District 6, and carried) that the report be accepted.

NATIONAL ASSOCIATION OF INTERCOLLEGIATE ATHLETICS:

President George indicated that no report had been received from this group.

NCAA FOOTBALL RULES COMMITTEE:

Mr. George indicated that this group had turned down the recommendations of the NATA regarding speering and material to be used to cover hand fractures and amputations, following which it was:

MOVED (by District 5 and seconded by District 6 and carried) that the report be accepted.

EQUIPMENT AND INJURIES COMMITTEE Joe Zabilski

The Equipment and Injuries Committee met with the representatives of the Manufacturers Association, the High School Federation and members of the Rules Committee on Monday, January 19.

The following persons were present at this meeting:

Cliff Speegle	Chairman, NCAA Football Rules Committee
Chalmers Elliott	NCAA Equipment and Injuries Committee
Dr. Fred Behling	NCAA Equipment and Injuries Committee
Warren Morris	NCAA Equipment and Injuries Committee
Jack Hays	Texas High School Coaches Asso.
Dick Schafer	National Federation
Sam Burke	National Federation
Ken Baldwin	National Sporting Goods Asso.
G.E. Morgan	Riddell, Inc.
Ray Ball	National Federation
Gene DaCosse	Wilson Sporting Goods Company
Edward M. Milner	Monsanto Company
Robert Humphrey	Schutt Manufacturing Company
Jack Curtice	AACA Chairman Football Rules
Merrill Greene	Bryan High School Texas
Don Beitter	Marietta Manufacturing Company
E. William Vickroy	NATA
Maury Real	Rawlings Sporting Goods
Del Humphrey	Schutt Manufacturing Company
Red Dog Ettinger	Southern Athletics
James Corbett	Bike Athletic Products
Tom Dempsey	Connecticut Observer
Jow	Chairman NCAA Equipment and Injuries Committee

Statistics relating to college football show evidence that the game is played and coached efficiently. Good balance exists between offense and defense. It has been said that college football has no plans to make any major changes.

Knee surgeries continue to be a major problem in spite of the rules prohibiting blocking below the waist on crack-back blocks, scrimmage kicks and free kicks.

Dental surgery is still of great concern even though the rule relating to mouth protectors has been better enforced.

Head and neck injuries have attracted much attention because of the serious nature of these injuries. Articles have appeared in the New York Times as well as local papers.

The American Football Coaches Association, at its annual meeting in St. Louis, voted not to teach the use of the head as the primary point of contact in blocking and tackling. The coaches also voted against the use of self-propelled, mechanized blocking or tackling apparatus because of undue risk of head and neck injuries.

The coaches also went on record as favoring greater emphasis by coaches, players and officials in eliminating speering.

The NCAA Committee on Committee on Competitive Safeguards and Medical Aspects was grateful to the Football Rules Committee for its positive commitment and actions taken on its recommendations relating to the four-point padded chin strap, torn jerseys, mouth protectors and helmets meeting NOCSAE standards and seal of approval.

Dr. Carl Blyth, president of NOCSAE announced that tests are being conducted on padded head protectors and the results should be available in the very near future.

The National Athletic Reconditioners have joined with NOCSAE. They will determine and pass on helmets offered for reconditioning as to meeting safety standards. They will reject all helmets that cannot meet the NOCSAE test standards and they will use only those replacement parts manufactured by the manufacturer of the original equipment. Substitute parts from other manufacturers shall not be used.

Considerable discussion relating to face mask took place. The possible removal of all face masks was suggested in order to get the face mask and helmet out of blocking and tackling. At a meeting of the AFCA, in which over 700 college football coaches were in attendance, only one voted to remove the face mask and all others voted to retain them.

The following recommendations were made:

1. Knee pads are mandatory for all players and should be worn correctly so that they cover the knees.
2. Hip pads should be included as mandatory equipment.
3. Rules relating to torn jerseys and wearing of mouth protectors to be more strictly enforced.

It was generally felt that the protective equipment worn by today's athletes is the very best and this equipment should be used for the purpose for which they were designed i.e., to protect the wearer and not to be used in a way to hurt an opponent. The athletic manufacturers have contributed much to the sport of football and continue to cooperate in every way to make this a better and safer game.

Statistically, an athlete's injuries could be greatly improved if more institutions would subscribe for the services of NAIRS which is an organization which deals with these types of statistics. It is the National Athletic Injury/Illness Reporting System and administered by Dr. Kenneth Clark of Penn State University. It is subsidized in part by the NCAA, private industry and by those schools that participate in its services. It is similar in some way to NOCSAE. The statistics and information can be improved and the statistics and services can be more meaningful if more cases were reported.

Dr. Joseph Torg of Temple University attended a meeting of Competitive Safeguards and Medical Aspects Committee in St. Louis and showed movies and slides on 10 cases relating to head and neck injuries. Two of these injuries resulted from self-propelled mechanical devices; the other eight occurred in games or practices. Six of these injuries happened to players who were on defense at the time.

Dr. Torg feels that these injuries are preventable and he proposes that the following rule be made effective as of 1976:

The head and helmet shall not be used as the primary areas of contact in blocking, tackling or running with the ball. A player striking another player with the crown or top of the helmet is in violation of the rule.

He stated that, "we need more than concern - we need effective action." "It is not enough to say that we do not teach kids to block or tackle with their heads." "You can be guilty by omission or commission."

The Competitive Safeguards and Medical Aspects Committee made the following statements:

- (a) This Committee supports the existing rules
1. Encourages the officials to enforce them.
 2. Encourages the coaches to instruct according to the rules and to instruct against improper techniques.
 3. Request athletic manufacturers to advertise consistent with techniques according to the rules.
- (b) From reviewing recent evidence, this Committee advises football coaches against the use of self-propelled mechanical blocking and tackling apparatus because of undue risk of head and neck injuries.

It is further recommended that the activating mechanism of such apparatus already in the field be made inoperative.

Joseph Zabilski
Chalmers Elliott
Warren Morris
Dr. Fred Behling

NATIONAL FEDERATION OF STATE HIGH SCHOOL ASSOCIATIONS:

Attention was called to the report made by Mr. Chambers at the previous Board meeting, with it being indicated by Mr. George that there was nothing further to be acted upon at this time and with the report, by general consensus, merely being accepted in the form of a progress report.

NATIONAL OPERATING COMMITTEE ON STANDARDS FOR ATHLETIC EQUIPMENT:

Attention was called to the prepared report concerning the activities and the progress being made by this organization relative to research and other functions and the status of NATA liaison with this group, following which it was:

MOVED (by District 5, seconded by District 7, and carried) that NATA Liaison with this group be continued and that Mr. Wall be, at his request, relieved as liaison representative effective at the end of June.

The meeting was, at this point, recessed to reconvene at 9:00 a.m. on the following morning...

FRIDAY SESSION June 11, 1976

The meeting was reconvened at 9:00 a.m., with Mr. Frank George, President, presiding, with the additional presence of Mr. Robert White from District 4.

NATIONAL HEAD AND NECK INJURY REGISTRY:

There being no specific discussion regarding this report, it was:

MOVED (by District-6, seconded by District 2, and carried) that this report be accepted and that NATA encourage full cooperation and continued support.

SPORTS SAFETY AND HEALTH CARE SOCIETY:

Attention was called to the submitted report and brief amplifying remarks by Mr. Davis, following which it was:

MOVED (by District 5, seconded by District 8, and carried) that the report be accepted and that NATA indicate to the Society its continued support.

SCHERING SYMPOSIUM:

Mr. Davis presented a brief outline in relation to the Schering Symposium to be conducted at the forthcoming convention meeting, following which it was suggested that each Director, on behalf of his region, write a letter direct to Mr. Schmeidler of the Schering Corporation, following which it was:

MOVED (by District 8, seconded by District 9, and carried) that the report be accepted, with encouragement of continued support on the part of NATA.

STATE ASSOCIATIONS:

Discussion ensued relative to the formation of separate state organizations with or without membership tied to NATA and to such advantages from a legislative basis and otherwise and also the effect this would have on the collection of NATA dues. It was also further indicated that there are no provisions in the NATA by-laws at the present time for these associations. It was:

MOVED (by District 5, seconded by District 10, and carried by a vote of 7 in favor, Districts 1 and 2 voting in the negative and District 4 abstaining) that the NATA go on record as NOT encouraging the formation of state athletic organizations at this time.

MOVED (by District 2, seconded by District 5, and carried) the Districts are encouraged to form State Licensure Committees; these committees to be entitled: _____ State Licensure Committee of NATA, District _____; that the committees shall be self-sustaining financially and will be subject to review by the District Director and the District Director, in turn, shall be an ex-officio member of each committee and shall report to the Board of Directors annually on the activities of each committee.

OLYMPIC SELECTION REPORT:

Mr. Malacrea presented a proposal for a selection plan in relation to candidates from all districts, with there following a brief discussion of the pro and con factors relating to this proposal, following which it was:

MOVED (by District 8, seconded by District 5, and carried) to table further discussion on the Olympic Selection Report until the midyear Board of Directors meeting and at that time to invite an official from the USOC to be present to further discuss the matter of selection procedure.

AAU REPORT:

Mr. Lane commented on his report and recommendations concerning the advantages to the NATA in requesting membership in the AAU. Following brief discussion as to the effect on the NATA of such membership, it was:

MOVED (by District 6, seconded by District 4, and carried) that the President of NATA contact the President of the AAU for the purpose of a discussion of liaison between the AAU and the NATA, with a report to be made back at the midyear Board meeting.

ASSOCIATION FOR INTERCOLLEGIATE ATHLETICS FOR WOMEN:

Mr. George indicated that there was no report to be made at this time, that there had not been any response to his request for liaison activity and that this group had no active liaison with any other association.

INSURANCE PROGRAMS:

A brief informational report was rendered by Mr.

Davis on the present status of coverages and premiums relating to the various NATA insurance programs; this then being followed by a brief discussion as to the status of various pending lawsuits involving Athletic Trainers, following which it was:

MOVED (by District 8, seconded by District 5, and carried) that the report be approved.

AUDIO TRANSCRIPTS LIMITED:

Mr. Davis called attention to the hiring of this firm for the purpose of making audio tapes of the various lecture presentations during the convention for sale to those desiring same, with a brief discussion ensuing as to the copyright value of any material thus obtained, with the opinion being rendered that once the material subsequently recorded had been made public, that present copyright laws did not obtain. It was:

MOVED (by District 8, seconded by District 6, and carried) that the report be accepted as informational.

DUPLICATION OF MAILINGS:

Attention was called to the complaint received by Mr. Steve Moore of District 9 regarding the duplicating of mailings received by him and his feeling that there was considerable needless expense connected therewith, he suggesting that perhaps financial savings could be effected by letting these various materials accumulate over a brief period of time and then sending them out in one large envelope. Discussion brought forth the feeling that while, under present postal rates such a procedure might save a cent or two per mailing, it would cost additionally for any large envelopes and other materials that would be utilized. It was:

MOVED (by District 9, seconded by District 5, and carried) that the Executive Director be instructed to discuss this matter with Mrs. Franklin and, if need be, perhaps an appropriate alternate method worked out in this regard.

PRO-RATED DUES FOR DISTRICT TRANSFER:

Attention was called to the request of Mr. Moore from District 9 regarding this matter and the reminder that this matter had also been previously discussed, it being indicated that in the majority of instances, so little financially was involved that the effort to enter into such an arrangement would not be worthwhile. It was:

MOVED (by District 10, seconded by District 4, and carried) that no action be considered for any pro-rating of dues.

CONVENTION REPORT:

Mr. Hoover briefly reported on current convention attendance figures, the various problems being encountered and the proposal for the writing of a Convention Manual of Procedure. He likewise discussed escalating convention costs and a possible increase in convention fees to offset some of these costs. He further discussed the restructuring of this large committee by "duty" function, with the possibility of having a sub-chairman for each group, such as "banquets", "registration" and the like, with this individual appointed on a national basis to work with the corresponding individual appointed at the local level. It was:

MOVED (by District 6, seconded by District 2, and carried) to approve the convention chairman's request for a committee change to read: "National Convention Chairman; National Banquet Chairman; National Awards and Gifts Representative; National Registration Representative; National Allied Meeting Representative and National Entertainment Representative and that the by-laws be revised to provide for this change.

MOVED (by District 8, seconded by District 9, and carried) that the budget as recommended by Mr. Hoover be approved.

MOVED (by District 5, seconded by District 7, and carried) to approved Mr. Hoover's request for a convention booklet to be developed prior to the January Board meeting.

MOVED (by District 8, seconded by District 4, and carried) to approve the revised procedure in No. 3 in attachment D on page 2 of the Committee's report.

At this point, the motion previously made by Mr. Flentje to not change the certification procedure for two years was, in accordance with regular motion, removed from the table, voted upon and carried.

TUESDAY SESSION June 15, 1976

The meeting was reconvened at 8:30 a.m. with Mr. Frank George presiding and with Mr. Cash Birdwell being present as the newly elected Director from District 6 and with Mr. Herman Bunch being presented as the newly elected Director from District 3.

Mr. Hoover, in subsequently again reporting on the activities and problems of this Committee at this session, brought forth for consideration of the Board the matter of refund of pre-registration fees in relation to those not attending the convention, the increasing costs pertaining

to convention functions and charging for various entertainment functions.

Following a lengthy and entailed discussion concerning these various items and pro and con comments by the Board members relating thereto, rather than any definite motions being made concerning any of these items, it was the consensus that Mr. Hoover would take the various suggestions offered as guides to be used by him in the planning of next year's convention and with an opportunity for him to present any concrete recommendations for Board action at its midyear meeting.

1980 CONVENTION SITE:

Following the presentation of the City of Columbus, Ohio as a site to be considered for the 1980 convention and a detailed slide presentation by representatives from the Sheraton Hotel at Philadelphia as to the advantages of Philadelphia as the 1980 convention site, it was:

MOVED (by District 5, seconded by District 3, and carried) that the 1980 convention session be held at Philadelphia.

STATE CHAPTERS:

MOVED (by District 2 and seconded by District 4) that the by-laws of the NATA be amended to allow for the formation of State Chapters, following which it was MOVED (by District 5, severally seconded and carried) that any further discussion of this matter be tabled until the January Board meeting.

ETHICS COMMITTEE:

Mr. Diehm called attention to the proposed new Code of Ethics guidelines as promulgated by the Committee. A brief discussion ensued relative to Section 4 thereof, it being:

MOVED (by District 7, seconded by District 5, and carried by a vote of eight in the affirmative and two abstentions) that in Section 4, the words "National Team Trainer" be deleted and all after the word "matter".

It was likewise agreed that the Board members would take home with them these newly proposed guidelines for perusal at their leisure and if they had any changes to offer, to communicate them to Mr. Davis, who, in turn, would get them out to the other Board members, with all of this material to then again be considered at the January Board meeting for final action.

CERTIFICATION COMMITTEE:

Mr. McLean called attention to the several items presented for Board action. It was:

MOVED (by District 2, seconded by District 5, and carried) that Mr. Carl Krein be approved as a replacement for Mr. Altott on the Committee.

MOVED (by District 5, seconded by District 4, and carried) that the Certification Committee be given approval to develop the recommendation for a seal as outlined by the Committee.

PROFESSIONAL EDUCATION COMMITTEE:

Mr. Miller called attention to the various recommendations as contained in the report. It was:

MOVED (by District 4, seconded by District 7, and carried) that the Curriculum Program in relation to the University of Pittsburgh be approved.

MOVED (by District 7, seconded by District 10, and carried) that the recommendation concerning the California State College curriculum and the recommendation that Mr. Bell be appointed Program Director be approved.

MOVED (by District 8, seconded by District 9, and with a vote of eight in favor and Districts 4 and 3 abstaining) that the University of Nevada curriculum submission be disapproved until such time as they meet NATA requirements of at least two Certified Athletic Trainers.

MOVED (by District 10, seconded by District 9, and carried) to accept the recommendation of the Committee regarding the dropping of the program at Slippery Rock State College for lack of a certified Athletic Trainer in the position of clinical supervisor.

MOVED (by District 4, seconded by District 5, and carried) that the one-man visitation team to a school be increased to two individuals.

MOVED (by District 4, seconded by District 5, and carried) that an annual report be submitted by an approved curriculum institution to the Education Committee.

MOVED (by District 7, seconded by District 8 and carried) that the NATA, in accordance with the recommendation of HEW, set up a Board of Appeals for curriculum rejection reviews.

MOVED (by District 4, seconded by District 7, and carried) that the faculty education program for trainers at Northwestern University be approved.

MOVED (by District 7, seconded by District 4, and carried) to approved the Berkshire Sports Medicine Institute Program, the vote be six in favor, one in opposition, with abstentions by Districts 9, 8 and 6.

MOVED (by District 5, seconded by District 8 and carried) that Parts A, B and C of the Committee's recommendation concerning workshop sessions be approved.

The Board further considered the recommendation relative to a Study Guide, with it being:

MOVED (by District 5, seconded by District 9, and carried) that Mr. Miller be given authority to explore this idea and report any further developments back to the Board at its midyear meeting.

MISCELLANEOUS:

MOVED (by District 8, seconded by District 4 and unanimously carried) that the Board back the membership of the Joint Commission insofar as practical.

ADJOURNMENT:

There being no further business to be handled at this time, the meeting was, at 4:30 p.m. adjourned sine die.

At this point Mr. Davis presented the minutes of the first Board meeting to the members (These appear on the preceding pages of this report.)

NATIONAL ATHLETIC TRAINERS ASSOCIATION Monday Morning Session June 14, 1976

The Annual Business Meeting of the National Athletic Trainers Association was convened in the Grand Ballroom, Boston Sheraton Hotel, Boston, Massachusetts, at eleven forty-five o'clock a.m., Mr. Frank George, President, presiding.

PRESIDENT GEORGE: Let us open our meeting with a prayer.

Heavenly Father, we thank you for bringing us together today. Please send us your guidance in order to help us with making decisions which will insure the growth and effectiveness of our Association. Please instill in us the ability to perform our duties as athletic trainers. Amen.

Now, may I have a motion to dispense with the roll call?

... It was severally moved, seconded and unanimously carried that the roll call be dispensed with...

PRESIDENT GEORGE: I would now like to have approval of the minutes of the 1975 Business Meeting.

These minutes have been published in the NATA Journal, Athletic Training, and may I now have a motion for those minutes to be approved.

... It was severally moved, seconded and unanimously carried that the 1975 minutes as published be approved.

PRESIDENT GEORGE: I would now like to introduce to you Otho Davis, Executive Director of the NATA, to give us the report of the Treasurer.

MR. OTHO DAVIS: Thank you, Frank.

The Treasurer's report was approved by your Board of Directors on June 10, 1976, the first Board meeting, as follows:

Receipts on hand from June, 1975, \$13,932.30.
Revenue received until May 15, 1976, was \$134,266.15.
Disbursements for the same period of time were \$135,437.80.
Balance in the general fund on May 15, 1976 was \$12,760.65.

Assets, certification account, \$9,518.38. This reflects income received from the Board of Certification for candidates to take their examination in March, June and at the August meetings. These expenses have not been paid as yet.

Regarding the Journal Committee, Account "A", in the First State Bank of Greenville, North Carolina, \$186.05.

Journal Account "B", in the First State Bank of Greenville, North Carolina, \$692.35.

Preregistration financial statement for the 1976 Convention. The account is in the First National Bank of South Carolina, Clemson, South Carolina, \$13,082.40.

NATA has the following accounts in the Philadelphia National Bank.

5.5 percent savings certificate, \$40,000; 5.5 percent savings certificate, \$10,000; 5.5 percent savings certificate, \$5,000; passbook savings, \$109.36, for a total of \$55,109.36 deposited in savings with the Philadelphia National Bank.

A resume of the Treasurer's accounts, as was approved by your Board, was as follows:

General Fund Account, \$12,760.65.
Certification Account, \$9,518.38.
Journal Account, \$186.05.
Journal Account, \$692.35.
Convention Account, \$13,082.40.
\$55,109.36 at the Philadelphia National Bank.
Total Assets for NATA are presently \$91,349.73.

This is a reflection of a 32.6 percent financial increase over 1975-1976 and your Association also has a 17.21 percent increase of membership during this same period of time.

From 1972 to 1976, the Association has grown by seventy percent financially and forty-nine point six percent by membership.

PRESIDENT GEORGE: May I have a motion to accept the report of the Treasurer?

... It was severally moved, seconded and unanimously carried that the report of the Treasurer be accepted...

PRESIDENT GEORGE: We will now have Special Committee reports and the first one is the Memorial Resolution. If there are any members of the Association who would like to being forward a Memorial Resolution, we will have it put in the minutes of this meeting and it will be published in the Journal.

Are there any Memorial Resolutions? I know there are at least three that have already been brought forward?

If you will all stand for a moment of silence to our members and friends who have passed on during this past year, we will appreciate it.

... The membership arose in a moment of silent tribute...

PRESIDENT GEORGE: Thank you very much.

I would now like to call on Porky Morgan, Chairman of the Twenty-Five Year Award Committee, to announce the recipients of the Twenty-Five Year Award, who will be presented with their awards at the banquet tomorrow evening.

MR MORGAN: The Twenty-Five Year recipients for this year are Francis Stannard, H. N. Thomas, George Anderson, Robert K. Brown, Edward A. Coppola, Joseph J. Stanitis, Fred Wappel, Andrew Sivess, Eddie Lane, Robert C. White, Tom Wilson, Jack Butoric and Z. M. Mel Blickenstaff.

PRESIDENT GEORGE: Thank you, Porky.

I would now like to call on George Sullivan to announce the Honorary Award recipients and the Citizens Savings Hall of Fame Award.

MR GEORGE SULLIVAN: Tomorrow night we will get to personally accept the following into the Hall of Fame: Lorian F. "Tow" Diehn, M. K. "Kenny" Howard, Victor D. Racine, and Gayle Robinson.

Also, for Honorary Membership, we have Dr. Victor Ippolito, M.D. of Cleveland, Ohio and the Cleveland Brown Football Club and a gentleman by the name of Dr. W.W. Patti, Ph.D of Indiana University, founder of the first post graduate curriculum for athletic training.

I would also like to announce that Henry Schmidt of Santa Clara will be given special consideration for fifty years as an athletic trainer, this to also be presented to him at the banquet tomorrow evening.

PRESIDENT GEORGE: Thank you, George.

Now, I am also pleased to announce again that the Cramer Products Company has again given usk \$250 for the William E. Newell Award and the winner this year is Caren Maery Frame of Runnemed, New Jersey. This award will be made at the banquet.

I would also like to introduce Mr. Jim Cody of the Betcon-Dickinson Protective Products who has been most generous in providing us fifteen hundred dollars in the form of a scholarship to be used in relation to the President's Challenge Award. This is used for research in sports medicine. Therefore, I would like to introduce to you now Mr. Cody from Protective Products.

... The award was presented by Mr. Cody to President George to be represented to its recipient at the banquet.

PRESIDENT GEORGE: It is really a pleasure to receive this award on behalf of NATA. We have received a lot of national publicity in many, many magazines because of this particular award. Thank you very much.

Now, I would like to have Lindsay McLean come forward and announce the winners of the Eddie Wojceki Scholarship Awards.

MR McLEAN: The recipients of the Eddie Wojceki Scholarship Awards as presented by Larson Laboratories of Erie, Pennsylvania, is a \$250 grant to each person.

The recipients are Ann Garziadie of Pelham, New York and Douglas Brand of Pullman, Washington.

PRESIDENT GEORGE: Now I will ask Pinky Newell to come forward and announce the winners of the 1976 NATA Scholarships.

MR NEWELL: The winners are as follows:

For the Robert H. Gunn Scholarship - William Michael Sherman, Ohio University.

For the Undergraduate Scholarship, Robert Neil Evers.

For the Postgraduate Scholarship, Donald Lee Kaverman.

I would also like to say that there is a new award this year given by the Association from District No. 4, the Living Memorial Scholarship Award, received by William Michael Sherman and I am also pleased to announce that this morning, George T. Scott was given the Committee on Grants and Scholarship's Annual Scholarship of \$500 for undergraduate scholarships starting in 1977. This will be submitted to the Board for approval.

PRESIDENT GEORGE: Thank you, Pinky.

I would now like to again call on Otho Davis to come forward and give the individual awards in recognition of

the work done for this national convention... whereupon Mr. Davis presented the NATA Award of Appreciation to the Convention Committee Members.

MR DAVIS: Will Mel Blickenstaff please come forward.

As all of you may or may not know, Mel has been a very diligent and very hard working Chairman in relation to the establishment of our Recruitment Committee. He has been the Chairman of this committee since its inception and this year has requested that he be replaced. He is going to spend some time at the lake and do a little more fishing and painting on that cottage that he has up there.

At this time we would like to recognize Mel with the NATA Award of Appreciation for his continued efforts in the establishment of the Recruitment Committee.

... The membership applauded as Mr. Blickenstaff received his award...

MR BLICKENSTAFF: I hate to admit this, but the calendar says that tomorrow I will be sixty years of age. It has been a lot of fun. I have enjoyed this.

I have had letters, I think, from almost all over the world. There have been about 120,000 brochures that have gone out and the people that requested information varied from seventh graders to people with doctor's degrees. This also included therapists who wanted to know how they could become trainers.

We have them all coming in and now all we have to do is to find them some jobs.

It has been great and I have enjoyed it but I think a younger man can do a better job and I know that Fred Kelly, Dartmouth College is going to keep things going. He is a very dedicated individual and so we are not going backward, we are going forward.

Thank you very much. (Applause)

PRESIDENT GEORGE: Thank you, Otho.

Is there a motion to approve the minutes as read?

... It was severally moved, seconded and unanimously carried that the minutes as presented approved...

PRESIDENT GEORGE: The minutes will be published in the Journal.

I would now like to recognize our present Board of Directors.

District No. 1, Wesley Jordan.

District No. 2, Richard Malacrea.

District No. 3, Craig Lewellyn.

District No. 4, Robert C. White.

District No. 5, William W. Flentje.

District No. 6, Eddie Lane.

District No. 7, Warren H. Lee.

District No. 8, William H. Chambers.

District No. 9, Eugene Smith.

District No. 10, Richard Melhart.

Let us all give them a hand for the good year's work they have all done. (Applause)

We will have four new Board members this year and they are as follows:

District No. 3, Herman Bunch of North Carolina State.

District No. 6, Cash Birdwell, Southern Methodist University.

District No. 9, Tom Wall, University of Tennessee.

District No. 10, Larry Standifer, University of Oregon.

And now, at this time, I would like to say a few words to all of you.

I would first like to express my thanks to Ortho Davis, our Executive Director, for the many hours he gives us.

I would also like to thank the various members of the Board of Directors, the Committee Chairmen and the committee members and District Secretaries for the great amount of work they do for NATA. These men are really dedicated and we really depend upon them.

The Association also appreciates the efforts of Koko Kasabian, Jack Baynes, Joe Borden and Karl Krein, the Committee Chairmen for this particular convention.

I would also like to thank the Association membership for reelecting me as President of NATA.

There are three members here today who are the Assistants at Brown University and they are Joe Castro, Joanne Dolcemacchio and Ed Jonnil because it is only through their assistance and willingness to be responsible for many of my duties at Brown University that I have been able to continue in this position and for that I sincerely thank them. (Applause)

Also, I sincerely mean it when I say we are an Association which depends upon its volunteer workers. There are few associations whose members are as dedicated to a profession as the NATA member is.

Today, I would like to extend a special thanks to Mel Blickenstaff, who resigned as Chairman of the Recruitment Committee, now the Information and Services Committee. He has worked as the Chairman of that Committee since its inception and he has spent many years on the Education Committee and he was also a District Director and, Mel, we thank you.

As an Association, we have been making great strides to improve the profession of athletic training. As an Association, we have tried to provide a number of different services through the membership.

In the past year, the NATA formed a state Licensure Committee, the goal of which is to develop a model piece

of legislation and guidelines for implementing this legislation. We paid for legal advice and for committee expenses to develop this legislation and guidelines.

In doing this, we had essentially one goal in mind -- that is, to protect the athletic trainer through legislation so that we can perform our daily responsibility legally. That is to say, many of us are not protected by law in doing some of the things we do. We should be. Other professions are.

The legislation which has been written also prevents unqualified people calling themselves athletic trainers.

Licensure of this type cannot be done on a national or a district level. It must be done in each state, on an individual state basis.

I am sure you all read the recent articles which vividly pointed out the need for this type of a license. The time has come. Each state must organize a licensure committee and approach your state legislators with this license. Do not expect it to be easy or to have it pass on the first attempt, for this would be extremely lucky. However, keep at it, because success will come on subsequent attempts. However, now is the time -- we cannot wait any longer.

Now is the time for athletic trainers to receive payment for many of the favors we did in the past -- the free lectures and talks to the Kiwanis and the Chamber of Commerce, the free treatments to influential alumnae, the representative or governor, who is one of your athletes. Now is the time they must be approached.

Please let us not have any misunderstandings. This law does not make anyone or any school hire an athletic trainer. It is not that kind of a law. It is a law which will legally protect us in our responsibility of preventing and treating athletic injuries. It is no more and it is no less.

It will take a strong effort on members in each state to have your legislature pass this law.

As you know, some of the states have begun to form state committees to assist them in organizing. NATA will cooperate and assist those state licensure committees in any way possible. However, NATA must insist that members of any state athletic trainers committee must also be an NATA member.

NATA has borne the burden of expense and, therefore, it is only fair to its members to insist on this.

Bob Behnke is the Chairman of our NATA Licensure Committee and I think when you see the work that he has done, when you see what a wonderful product he has turned out, when you see the comments the lawyers and legislators that read that particular model legislation, you will be extremely pleased. It is a marvelous piece of work and Bob did a wonderful job on it and so I hope to see many of you at that meeting.

It is the most important thing, I believe, that has come before NATA since I have been involved with this body, which is prior to 1970.

The time has come, we have to protect ourselves, we have to protect the students in our programs and, further, when they get out, they have to have a license that says that they can do the things they are teaching them to do. Also, you have to be protected.

Now, while we are talking about protecting ourselves, hopefully, you will also take advantage of the professional liability insurance which is available through the Association. I am not an insurance salesman. The Association is not realizing any profit in relation to this program. However, it gives us excellent coverage for a very low premium.

More and more trainers are being exposed to professional liability suits. Protect yourself with this relatively low investment.

Please also support our Journal advertisers and exhibitors. They are the people who supply us with the amount of money through which are able to provide the services we do provide.

I thank you for giving me this opportunity to speak. If you have any questions or suggestions, please let your District Director know.

I am going to call for any new business. Is there any new business to be brought before the Association?

MR. JOHN SCIERA: I was wondering whether or not, from the floor here, there would be the possibility that the organization encourage the formation of state associations. I think other organizations, such as the AMA, the nurses, the teachers, etc., have organized this way. They are organized by states, they are organized into districts, organized nationally.

I think that the NATA should encourage this type of structure and, therefore, I would like to bring this to the floor for consideration.

PRESIDENT GEORGE: Basically what I asked you to do was to form a State Licensure Committee in each state, with basically one goal, and that is a goal of getting a license passed in your state.

If you talk to the trainers in Texas and know how secure they are in their position and in their fairness of having a license to protect them, to allow them to do the things they do, when I think you will realize how important a license is.

Now, as I understand it, John has made a recommendation that each state form an athletic trainers

association.

In other words, in his particular state, they have the New York Athletic Trainers Association.

Our Board, however, voted that particular structure down. In other words, the Board decided they did not want a different state athletic trainers association in every state. I think probably the biggest thing we were against was that the state member then would have to pay state dues -- he would have to pay District dues and then would have to pay also the national dues.

Also, I believe John indicated this would not have to be compulsory at the state level but, again, this is not much of an association at the state level if dues were not compulsory.

Therefore, I would like to ask Bruce Melin how we go about this. Bruce is our Parliamentarian.

MR. MELIN: Was there a motion made?

PRESIDENT GEORGE: I don't think so, not up to this point. However, I will recognize John for a motion if he desires to make one.

MR. SCIARA: I would like to make a motion that NATA favor the formation of state organizations, those that are inclined to do so.

... The motion was severally seconded...

PRESIDENT GEORGE: The motion is that NATA encourage those states inclined to do so to form their own state athletic trainers associations.

Right now, in relation to the structure of our Constitution and Bylaws, we are allowed to have the National Association and a structure of ten Districts.

The motion has been seconded. Is there any discussion as to the formation of a State Athletic Trainers Association? The discussion may come from the Board as well.

Is there any discussion on this particular motion?

FROM THE FLOOR: Yes.

One of the things we must be aware of when we start talking about licensure is that is that each state will have to supervise its own licensure and control and that without a state organization of some kind going above and beyond the committee, it is going to be very difficult to actually control our own licensure in our own state. It is going to have to be self-policing.

PRESIDENT GEORGE: Is there more discussion on this?

I will recognize Cash Birdwell, Director of District No. 6.

MR. CASH BIRDWELL: That is a good thought and that was originally the thought of the State of Texas -- that they would govern themselves. However, as they found out, when they went to the state, as money gets tighter you will find out that if you can get in and get it into the committee, they are not going to want to set you up in your own organization, I am afraid, and give you a budget, because they are going to use the excuse of tight money and, rightfully so, it probably is.

What they are going to try to do, as in the State of Texas, they passed a law that put that into the Department of Health Resources, which was already budgeted, already had a Director, had secretaries, already had state investigators and trainers. Therefore, there was not budget involved. Therefore, you will see there will not be a need for money because they are not going to want to budget you -- they are going to want to put you in an agency that already has a budget and already has all of the people and the payroll.

Their reaction in relation to the trainers was that this could get so big that they would have to hire a Director, get office space, have to hire secretaries and all of that. They believe that the budget would grow whereas, if they can put you into an already existing organization along these lines and keep it free in the budget, it will likewise grow.

MEMBER: I understand that aspect of it but the coordination of reporting to state agencies requires some coordination with the state. Without a state organization, I don't know how you get communication.

PRESIDENT GEORGE: You keep saying "Without a state organization".

I have strongly recommended, I have almost begged you to form a state organization but, as the Board has directed me to tell you, we want it to be a licensure committee.

The state organizations that have formed have formed with the Ethics Committee, with the Education Committee, with the Research and Injury Committee and at the present time the National Association feels that the state does not need an Ethics Committee. If there is an ethical problem in the state, there is a very good procedure for it to follow.

Also, if there is some research in injury, we have an active Research and Injury Committee to help you.

Our thought right now is one thing -- state licensure. We don't want to get away from that.

We want you to organize -- we want you to organize as strongly as you can. We want you to get funds if you can but we want only one thing right now -- to protect the athletic trainer and we want that to be done through a licensure committee.

The District Director of District No. 2, where John is

from, would like to speak.

MR. RICHARD MALACREA: I would like to say that a proposal to amend the bylaws to allow for formation of chapters was made and then in the ensuring discussion between the Board members Frank told us the reason as to why that was put down.

I felt at that time, this was the logical step, this was the way other associations had reorganized themselves to a National, to a District or to a Chapter, but now I think we can still do this. I think we can have State Associations or State Chapters, if you will, in time, however the Board does not feel at this time that this is a logical step and something that we will be moving toward.

PRESIDENT GEORGE: Is there any further discussion? Would anyone else like to speak?

I again want to express to you the idea that we are not asking the states not to organize. I am, as a matter of fact, begging you to organize. However, I am begging you to organize. However, I am begging you to organize for one reason -- a State Licensure Committee.

MEMBER (District No. 2): With regard to raising money for State Committees, if you propose organizing those committees, how will the committee acquire funds.

As a State Association, for example, we can require dues from our membership in order to run that association and to proceed with licensure. However, as a State Committee, what do we do -- ask people to volunteer donations and "please send us toward our licensure efforts?" I think it is going to be difficult to do that, especially on a voluntary basis like that.

PRESIDENT GEORGE: However, you may assess members of the committee, volunteer members.

I would like to recognize Eddie Lane from District No. 6, where they have had that experience.

MR. EDDIE LANE: District No. 6, which represents Texas and Arkansas, we have a state licensing law in the State of Texas.

In 1970 it was put through by way of the things that Frank just asked you people to go and do -- in other words, to go out and call upon those in your debt and to those who owe you for services you may have rendered in the past. Get your representatives, your alumnae, influential people whom you have done favors for in the past. If it takes a personal trip in your state to your state capital and you have to pay for it yourself, go and do it.

As a matter of fact, this is how we did it in Texas.

We came back, after we saw that our Texas Athletic Board was not going to work, and we began again, through new people and even some of the same people. Some of them went through it the first time and again took money out of their own pockets.

I don't think it is going to take a great financial lobby because I think we are a long way from that.

For example, I believe it took the physical therapists some twenty thousand dollars to create a big fund. However, we are not to that point and so it is going to have to basically come out of the pockets of your friends.

Don't underestimate yourself -- you can get these people to cooperate.

We have given you a piece of model legislation which is giving you a good start. Take that, form your state committees, your state associations, I don't care what you call them, form them and get to work.

PRESIDENT GEORGE: Is there further discussion?

MR. BATES: You are asking us to form an association but yet you don't want us to be an athletic trainers association -- you want us to be just an association to promote licensure?

PRESIDENT GEORGE: Yes.

MR. BATES: I think it is important that we understand this procedure -- that we need to organize as a group of people in the state and try to establish some form of committee which is going to work for licensure. Therefore, it is important for us to form a State Association of Athletic Trainers?

PRESIDENT GEORGE: Yes.

MR. BATES: Did I understand correctly?

PRESIDENT GEORGE: Yes.

MR. BATES: Then, as I understand it, what you are turning us down on has to do with forming a state association in relation to which we are going to require dues from the membership, and which we are going to have committees and this is the thing we have to do.

PRESIDENT GEORGE: What kind of committees will you need to have?

MR. BATES: Committees authorized to get us into licensure.

PRESIDENT GEORGE: That is all you need right now, a licensure committee, insofar as the National Board of Directors is concerned.

MR. BATES: For example, I am from Pennsylvania. We need to have a Pennsylvania Athletic Trainers Association. This does not have to be an association which is anything other than a part of the NATA and so why are you not in favor of encouraging us to form a state Athletic Trainers Association -- that is my question.

PRESIDENT GEORGE: We are very strongly in favor of you forming a State Athletic Trainers Association. We

are asking you to call that association the State Licensure Committee, because right now we feel that this problem is so big that it is the only problem that we as an Association on the state level should face.

MR. BATES: Then this is essentially a matter of semantics?

PRESIDENT GEORGE: You are exactly right -- it is a matter of semantics. I tried to explain that to your leaders yesterday. It is a matter of semantics.

MR. BATES: That is the matter that I wanted to make clear.

Mr. L.F. DIRHN: Mr. President, what is the motion before the floor?

PRESIDENT GEORGE: The motion before the floor is that the NATA be encouraged to encourage states to form state Athletic Trainer Associations, is that correct?

MR. SCIARA: Yes.

PRESIDENT GEORGE: Now, in relation to the way it must be done, if you people favor that, then the vote will really be to direct the Board of Directors at their Tuesday meeting to bring that subject up again and vote upon it again and that is how it is done, is that correct?

MR. MELIN: To consider the subject.

PRESIDENT GEORGE: If it is not, if it is turned down, then we still, as an Association, encourage you to strongly form state groups. I don't care what you do, but we want that group to be working for one thing.

You have to be honest, New York State, Pennsylvania State -- you have diversified -- you really have spread your interests out to education, to research, to ethics, and that is not it right now -- right now it is one thing -- it is state licensure, and we are lying to ourselves, anybody out there, who does not have a license to do what you are doing in your state.

MR. DIEHN: I would like to make a motion that this be tabled and referred back to the Board of Directors for further study.

... The motion was severally seconded...

PRESIDENT GEORGE: We have before us a motion to table, which has been seconded.

As I understand it, that motion is allowed. The motion is to table for further discussion by the Board of Directors and there is a second.

All those in favor of tabling this motion for further discussion by the Board of Directors please say "Aye"; opposed? I would like to take a hand count.

...Whereupon, a hand count was then taken...

PRESIDENT GEORGE: The vote is eighty-one to table the motion and sixty opposed and so the motion to table carries and we will discuss this further at the Board of Directors meeting.

However, again, I want you to understand one thing -- we are not telling you not to form groups and associations. It needs to be done but the thrust has to be for that licensure.

Now, is there any further new business?

MR. SCIARA: I would like to make one more comment.

Our new formation of the Athletic Trainers Association of New York is our big thrust for licensure primarily, and we have the same constitution and bylaws as the Eastern, and I would hope that nobody would think that we are thinking of fragmenting or anything like that. Our main purpose is to strengthen the total NATA structure, the same as many other organizations have done.

That is all I would like to say.

PRESIDENT GEORGE: At your District meetings this afternoon, please discuss this subject and tell your District Directors how to vote because that is the most democratic way to do it.

Is there further business?

MEMBER: I have just one additional comment.

In light of the vote that was just taken, I would hope that the Board of Directors would not just reinforce what they previously had decided, since apparently there are some nine members on the Board who voted in favor of tabling. However, I hope they also realize that the constituency here, at least a great percentage of it, seems to have some favor toward state organization.

It may be that with respect to putting this back in the hands of the Board, they may just kill it. However, I would only say that I hope the Board realizes that this was not a lo-sided vote.

PRESIDENT GEORGE: Is there further new business?

PRESIDENT GEORGE: Is there further business?

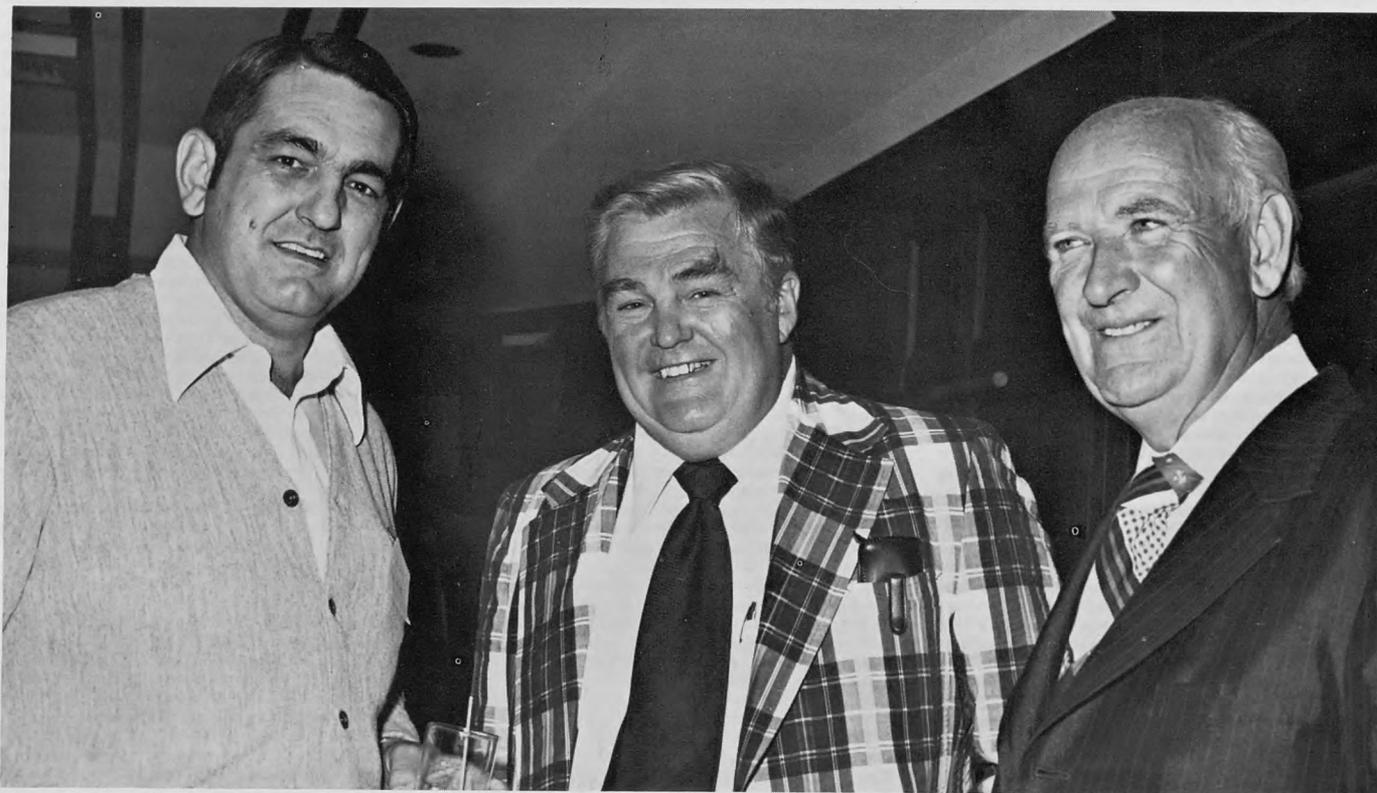
MEMBER: I would like to make a motion that starting next year, from then on forward, at the beginning of our national business meeting, we also have the Pledge of Allegiance. I think this would be a good year to move in that direction. It was started in the Eastern a few years ago and I think we should carry it forward to National. I will so move.

...The motion was severally seconded and, there being no further discussion, was voted upon and declared to be unanimously carried...

PRESIDENT GEORGE: Is there further business?

...At this point, in accordance with regular motion, at 12:45 o'clock p.m., the meeting was adjourned...

New England Patriots Entertain NATA Members in Foxboro, Massachusetts



(L-R): Otho Davis Executive Director of the NATA; "Bucko" Kilroy, Director of Player Personnel for the New England Patriots; and William Sullivan, Jr., President, New England Patriots.

On Saturday evening, June 12, 1976, President William Sullivan, Jr., and the staff and players of the New England Patriots entertained the members of the NATA at a cocktail party and dinner held in the New England Patriots clubroom in Foxboro, Massachusetts. Bill Sullivan spoke to the group and showed filmed highlights of the Patriots' 1975-76 season. The food and hospitality were unsurpassed and insurmountable!!! A special thanks to Mr. Bill Sullivan and the entire New England Patriots football club for a great time!

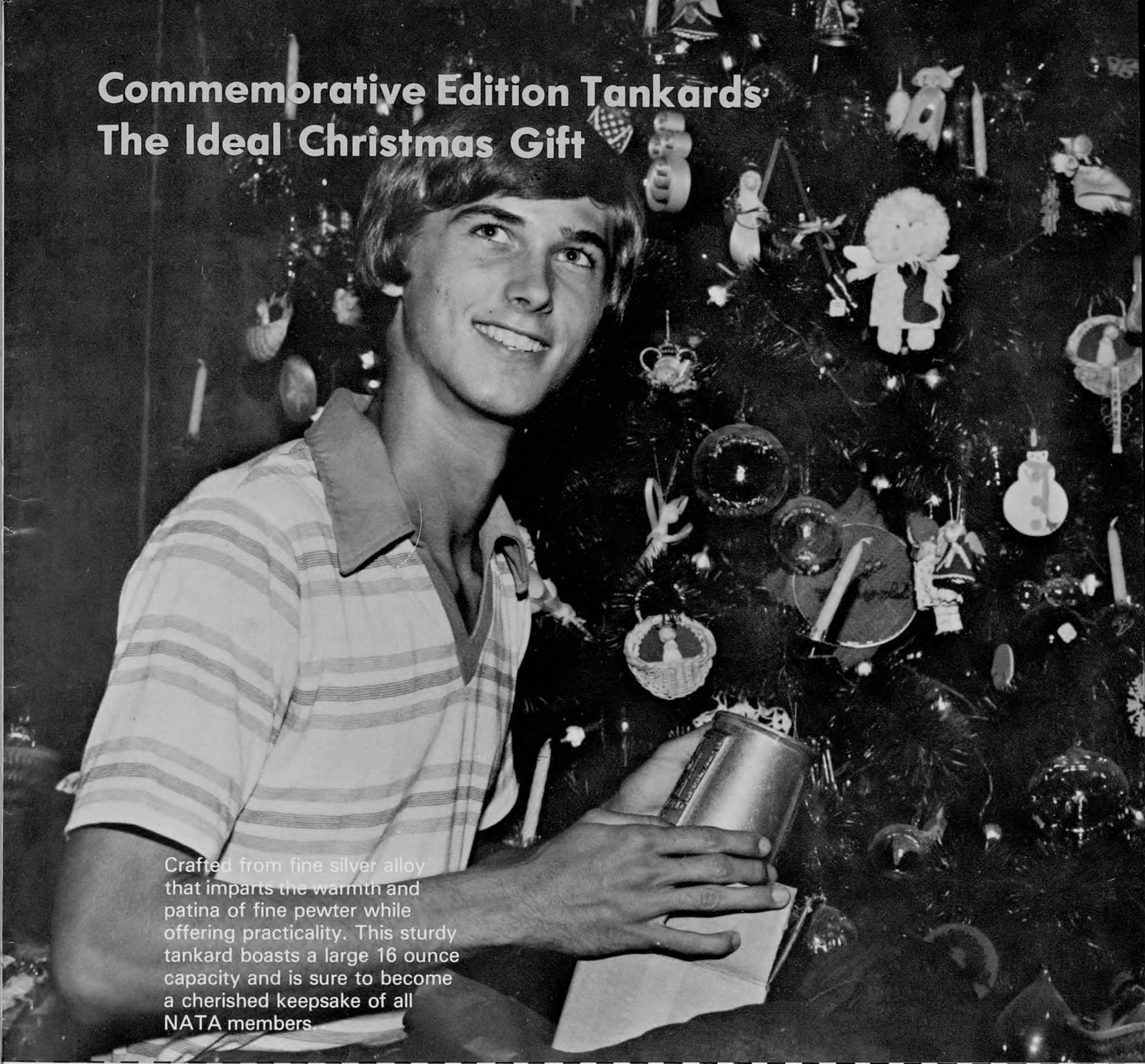


(L-R): Rod Compton, Editor-in-chief, *Athletic Training*; Mary Edgerley, Director of Advertising, *Athletic Training*; Tom Healiom, Head Trainer, New England Patriots; and Otho Davis, Executive Director of the NATA.



(L-R): Fred Hooyer, Head Trainer, Clemson University; Tom Healiom, Head Trainer, Patriots; John Lacey, Head Trainer, UNC-Chapel Hill; "Bucko" Kilroy; and Herman Bunch, N.C. State Head Trainer.

Commemorative Edition Tankards The Ideal Christmas Gift



Crafted from fine silver alloy that imparts the warmth and patina of fine pewter while offering practicality. This sturdy tankard boasts a large 16 ounce capacity and is sure to become a cherished keepsake of all NATA members

Please send the following Commemorative Edition Tankards to:

Name _____

Address _____

City _____ State _____ Zip _____

_____ No. of Disneyland 1975- Commemorative Edition Tankards

_____ No. of Boston Bicentennial 1976 - Commemorative Edition Tankards

Enclose check for \$12.00 for each Tankard ordered and send to:

TANKARDS

3315 South Street
Lafayette, IN 47904

NEW FROM CRAMER

PROTECTIVE PADS AND KNEE BRACES



HAND & FOREARM PADS



ELBOW PAD

KNEE PADS



KNEE BRACES



Designed for maximum protection and comfort. Covered with a special heavy duty polyester/cotton or nylon stretch knit fabric for increased flexibility. Seamless construction and finished edges combine with soft finish fabric to assure comfortable non-slip wear.

Every pad is fitted with thick Ensolite — the nitrogen-filled closed cell padding that compresses slowly to absorb direct blows.

All pads are contour-knitted and sized to fit the tapered circumference of arms and legs. All Cramer pads are washable and produced in natural fabric color.

Cramer's three knit elastic braces are padded with Ensolite to provide maximum joint protection and support. These durable, comfortable braces are sized and designed for all knee protection needs.

Additional information is in the March '76 Catalog supplement mailed to your Athletic Department.

Fall practices aren't that far away. Place your order now for these new protective pads and braces.



Cramer Products, Inc.

P. O. Box 1001

PH. (913) 884-7511

GARDNER, KANSAS U.S.A. 66030

